

**KNOWLEDGE OF PREDATORY PUBLISHING: A CASE STUDY OF MALAWI UNIVERSITY
OF BUSINESS AND APPLIED SCIENCES**

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UNIVERSITY of the

**A mini-thesis submitted in partial fulfilment of the requirements for the degree of
Master of Library and Information Studies (MLIS Structured) in the Department of
Library and Information Science, University of the Western Cape.**

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NOVEMBER, 2022

Declarations

I, **Stuart Pearson Mvula**, declare that this min-thesis is my original work and all sources of information used in the study have been duly acknowledged through citations and references. I also declare that this min-thesis has not been previously presented or submitted to any other University for the award of any degree. This mini thesis has been submitted to the University of Western Cape in partial fulfilment of the requirements for the degree of Master of Library and Information Studies (MLIS Structured) in the Department of Library and Information Science at the University of the Western Cape.

Signed:



Date: 1st November, 2022

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Date 17 February, 2023



Abstract

This study investigated knowledge of predatory publishing amongst academics and researchers at the Malawi University of Business and Applied Sciences (MUBAS). The underlying aim of the study was to develop evidence-based recommendations that could limit the practice of predatory publishing and its associated effects. This study was underpinned by two theoretical frameworks namely, the Prestige Maximisation Model of Higher Education Institutions and the Elite Journals (Prestige model) as well as the Principal Agent Theory. A post-positivist research paradigm was used, and a sequential explanatory design was applied to collect data for the study. A total of 95 academics and research-scientists were surveyed while eight (8) associate professors were interviewed face-to-face using an interview guide. The quantitative data was collected online through the use of Google Forms while face-to-face interviews were conducted to collect qualitative data. The quantitative data were analysed using a Statistical Package for Social Sciences (SPSS) and Excel while qualitative data were analysed using thematic analysis. Although the study findings established that most faculty members were aware of the terms “predatory publishing” and “predatory conferences”, there was limited knowledge about the tools and systems used to check predatory journals and the quality of research outputs. Furthermore, the study also established that 19% of the respondents had fallen prey to predatory publishing. The study showed that predatory publishing affects research budgets, ranking and reputation of universities. Predatory publishing also affects career-progression of faculty members and causes harm to the process of scientific knowledge production.

The study has recommended the development and adoption of a policy and guidelines on research integrity to limit the problem of predatory publishing at MUBAS. The study has also made several recommendations aimed at equipping academics and researchers with knowledge and skills on how to distinguish between predatory publishing practices and standard publishing norms. In particular, the Library Department and the office of the Dean responsible for research have been recommended to collaborate and reshape research and publication practices to comprehensively respond to the effects of predatory publishing and predatory conferences.

Key words

Article Processing Charges

Impact Factor

Open Access

Predatory journals

Predatory publishing

Peer Review

Scholarly communication



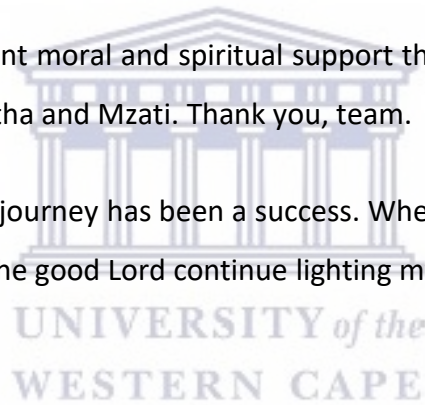
Acknowledgements

Firstly, I would like to sincerely thank my supervisor, Professor Elisha Chiware for his guidance and unwavering support throughout the entire period of my studies at UWC. I would also like to appreciate the support that I received from the LIS department and all academics at UWC who rendered their intellectual and technical support during the proposal development, and the application for an Ethical Clearance Certificate.

Secondly, I would not have been able to study at UWC without the financial support from MUBAS. In view of this, I would like to thank the management team at MUBAS under the leadership of the Vice Chancellor, Professor Nancy Chitera. I would also like to register special appreciation to my immediate supervisor who is also the current University Librarian at MUBAS, Dr. D.D. Eneya for recommending that I should be offered a scholarship as well as a study leave.

I am also grateful for the constant moral and spiritual support that I received from my wife, Ellen, and my children, Tawonga, Martha and Mzati. Thank you, team.

Finally, by the grace of God this journey has been a success. When all is said and planned, it is God who fulfills our plans, and may the good Lord continue lighting my path of success.



Dedication

This study is dedicated to my teachers at Sazu Primary School located in Mzimba district particularly the late Zondwayo Phiri, who was popularly known as Z.S. Phiri. He shaped my desire for academic success while at a primary school.



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List of Abbreviations

APC	:	Article Processing Charges
COPE	:	Committee on Publication Ethics
CPUT	:	Cape Peninsula University of Technology
CSE	:	Council of Science Editors
CWTS	:	Centre for Science and Technology Studies
DHET	:	Department for Higher Education and Training
DOAJ	:	Directorate of Open Access Journals
FTC	:	Federal Trade Commission
HSSREC	:	Humanities and Social Science Research Ethics Committee
IEEE	:	Institute of Electrical and Electronics Engineers
ICMJE	:	International Committee of Medical Journal Editors
IF	:	Impact Factor
KUHES	:	Kamuzu University of Health Sciences
MUBAS	:	Malawi University of Business and Applied Sciences
MoEST	:	Ministry of Education Science and Technology
NCHE	:	National Council for Higher Education
NCST	:	National Commission for Science and Technology
NPC	:	National Planning Commission
OASPA	:	Open Access Scholarly Publishers Association
OA	:	Open Access
REC	:	Research Ethics Committee
SciELO	:	Scientific Electronic Library Online
SPSS	:	Statistical Package for the Social Sciences
UNIMA	:	University of Malawi
UWC	:	University of the Western Cape
WAME	:	World Association of Medical Editors

CHAPTER ONE: INTRODUCTION AND BACKGROUND

1.1 Introduction

This study was conducted to establish knowledge of predatory publishing practices among faculty members at the Malawi University of Business and Applied Sciences (MUBAS). The study was initiated against a background that funding for research in Malawi, and at MUBAS in particular, is very limited. The promotion for academics and researchers to senior ranks is mostly based on quality research outputs. Furthermore, ranking of universities on the global scale depends on quality research outputs and impact. Therefore, this study was designed to propose interventions that could curb and control the problem of predatory publishing. This would contribute to quality assurance measures in the scholarly communication process as well as promoting the visibility and internationalisation programmes of MUBAS.

The problem of predatory publishing is not only prevalent in developing countries but also in developed countries such as those in Europe and North America (Ward, 2016, p.775). Evidence suggest that young and non-experienced as well as experienced academics have often fallen prey to predatory publishing practices (Macháček & Srholec, 2021). Accordingly, a case study approach was employed in order to comprehensively understand and analyse the complexity of predatory publishing practices among academics at MUBAS, as well as their level of knowledge on this issue.

1.2 Background and motivation

The practice of predatory publishing has a negative impact in the scholarly world. This practice causes a lot of harm to science and the economies at large. Shen and Björk (2015, p.13) for example, established that by 2014, the market value of predatory publishing was 74 million United Sates Dollars (USD), and this was based on Article Processing Charges (APCs). On the other hand, the Open Access (OA) publications' market value from credible sources was estimated at around 244 million USD while the global market size of subscription charges was estimated at 10.5 billion USD. The APCs vary from one continent to another, and from one publisher to another. McLeod et al. (2018, p.123) painted a picture about the range of APCs, for example, from a sample of 613 journal articles and a computed average cost for a single journal article ranged from \$104 to \$239. In the South African context, the range for APCs is reported to be around ZAR100 000 per full counted paper (Mouton, 2017, p.8). What

is clear is that predatory publishing is very expensive and therefore retards development particularly in the context of developing nations.

The most unfortunate situation is that the practice is continuously growing, and a number of scholars such as (Macháček & Srholec, 2021) have lamented about this trend. The growth is partly due to the behaviour of dishonest publishers who exploit the OA publishing model. This is done by presenting ambiguous journal metrics, capturing journal titles almost similar to those known to be trustworthy as well as capturing distinguished scholars and scientist from distinguished research organisations and high-ranking universities as editorial board members. This is done without their knowledge and consent (Macháček & Srholec, 2021). Fraud and corrupt practices in the scholarly landscape is very detrimental, dangerous and unethical because it threatens the integrity of academics as well as the institutions under which they work.

The geographical distribution of authors and publishers in predatory works is not properly demarcated. However, Shen and Björk (2015, p.898) established that Asia and Africa featured highly in terms of authorship as well as publishers. Similarly, Liu (2013) and Demir (2020) have pointed out that African and Asian countries particularly Nigeria and India have highest numbers of authors who publish in predatory journals. Studies done in South Africa and Ghana (Mouton, 2017; Atiso et al., 2019) on the extent of predatory publishing have all also established that African researchers have fallen prey to predatory publishing. These studies have indicated that the motives behind predatory publishing include high expectations from employers, lack of knowledge as well as acceptance and rejection rates of manuscripts by reputable publishing industries among others. In most universities across the globe, there is a strong standing tradition, popularly known as *publish or perish* in which academics are expected to have a sound track record of research output for them to rise through the ranks. The said tradition, exerts pressure and anxiety amongst faculty members hence some rush to publish their works in poor-standing scientific journals. In addition, some African institutions do not have properly structured control measures for their researchers to publish in non-predatory journals, and this poses a challenge.

In Malawi, funding for research is limited and mostly from public funds and donors. Such limited funding, makes very little provision for adding APCs to research grants. Chiware (2020, p.1) echoed that most African governments do not prioritise funding for research, and as a result, research

infrastructures remain under developed. Data from the World Bank (2021) shows that Malawi's GDP is one of the lowest in Africa. Moreover, Malawi faces many social-economic challenges, hence funding for research is not one of the key priority areas. To this end, the practice of predatory publishing poses a huge threat to the already meagre national research resources.

The National Council for Higher Education (NCHE) in Malawi is mandated to regulate and accredit institutions of higher learning, but to date, their criteria for accreditation does not include scrutiny of scholarly publications nor does it maintain a list of credible publishers or journals. However, this seems to be a different case in South Africa as reported by Mouton (2017). The Department for Higher Education and Training (DHET) maintains and updates a list of credible journals annually. This list is used by scholars, researchers and academics as a quality assurance tool in the publishing of scholarly works (Mouton, 2017). It is therefore important for NCHE to consider modelling a similar approach adopted by DHET in future.

The findings of this study will contribute and stimulate debate on predatory publishing practices at MUBAS, and assist in the development of policy frameworks and guidelines that would guide academics, research scientists, university administrators and students in this area.

1.2.1 Contextual background of the study

The context of this study can be understood with a brief reflection on the background and historical trends associated with scientific publishing. According to Benos et al., (2007, p.145) the history of scholarly publishing, also known as scientific publishing is traced back to around 1665. The first scientific publication was titled "*Journal des Scavans*", in French. It was a collection of scientific papers that were compiled by Denis de Sallo. Such papers were compiled without due regard to a peer review process. Peer review is a systematic process, where editors and expert reviewers evaluate manuscripts to ascertain originality and check for errors, flaws as well as reach a consensus about the value, impact and influence of a submitted manuscript (Benos et al., 2007). Peer review is one of the major quality assurance measures in the publishing of scientific papers. The first peer reviewed publication was published by the Royal Society of Edinburgh in the year 1731, and it was a collection of medical essays and observations (Benos et al., 2007, p.145). Since then, the trend of scientific publishing has rapidly evolved, and as result there are currently a number of scientific publishing models including the Open Access (OA) or Open Science Movement (OSM). The aim of OSM is to unlock scientific knowledge and

make it accessible and affordable to the general community of users. In the recent past, OSM gathered momentum and other scholars raised red flags to signal dubious acts and fraud, and thus the term predatory publishing came to limelight.

1.2.2 Predatory publishing and its characteristics

The term predatory publishing was first coined by Jeffery Beall, a USA based librarian after observing unethical behaviour in the OA model of scholarly publication (Mills & Inouye, 2021). Accordingly, a list popularly known as Beall's List of Predatory Journals (Beall's list) was compiled. In other jurisdictions, predatory publishing is described as a dubious practice of publishing low quality papers, whose processes are characterized by email spamming, unethical peer review process and high APCs. The definition of APCs varies but it refers to the fees that publishers charge authors in order to have their manuscripts reviewed and eventually published as well as made open to the general public to access (Ayris & Ignat, 2018). The APCs are paid by authors themselves and in most universities and research centers, it is paid by institutions using tax payers' money or from donors who support research projects.

A number of scholars such as Lopez and Gaspard (2020) and Maurer et al. (2020) have argued that Beall's list is not authoritative. They criticized the methodology that was employed in the compilation process. Further, they argued that the methodology was flawed, the study lacked institutional backing, and that it was an individual's effort, subjective as well as non-inclusive. On the contrary, other scholars such as Kimotho (2019), while acknowledging the shortfalls associated with the methodology that was employed, observed that Beall's efforts had raised some important questions about OA publishing such peer review processes. This way, Beall's efforts had helped raise awareness, and make institutions of higher learning alert about the practice of predatory publishing as well as safeguard scientific knowledge production.

Furthermore, predatory journals have false claims about impact factors, and where their journals are indexed. On the other hand, legitimate journals such as those indexed by Scopus, Web of Science, and SciELO have verifiable impact factor values. Additionally, predatory journals usually have very low or no quality assurance standards. The peer review process is expedited or not undertaken at all. In some cases, distinguished scholars are included in the editorial boards without their knowledge and consent.

Moreover, the business model of predatory journals is to make profits through APCs and not to promote scholarship.

To date, a number of interventions have been put in place to recognise and identify characteristics of predatory publishing practices. For example, Mouton (2017, p.2) summarised and compared the characteristics of standard publishing practices and predatory publishing. Among other factors, in standard publishing, manuscripts are submitted to publishers without solicitation or influence from publishers, editors and reviewers. While in predatory publishing, there is mass solicitation of manuscripts through email spamming, and a promise of an expedited publication process.

1.2.3 Context of the study site

The study site was MUBAS, a public university in Malawi established under an Act of Parliament No. 19 of 2019. MUBAS was formerly one of the four constituent colleges of the University of Malawi, and it was trading as Polytechnic College. Further details about MUBAS as a research site, are provided in chapter three under section 3.6.

1.3 Problem statement

A number of studies (Kimotho, 2019; Macháček & Srholec, 2021) have raised concerns over the continuous rising of predatory practices in scholarly publishing. This practice is radiating a threat to the integrity of research outputs as well as undermining the reputation of academics, their respective institutions as well as funders and governments. Frandsen (2017) established that the prevalence of authors who publish in predatory platforms and poor scientific journals is higher in developing countries. Similarly, Shen and Björk (2015, p.898) in their study, established that Asia and Africa featured high in terms of authorship as well as publishers. Although there are some studies giving insights in terms of the geographical origin of authors who predominantly publish in predatory platforms, there is generally no knowledge about the magnitude of the problem in Malawi. This study, focused on MUBAS because the institution, in its promotion criteria, requires academics to demonstrate a culture of excellence in research output in the form of published peer-reviewed journal articles, book chapters, conference papers, designs and patents (University of Malawi, 1996). For this reason, the issue of predatory publishing has taken a centre stage because a number of applications for promotions are not considered due to issues bordering on predatory publishing. The risks

associated with issues of predatory publishing thus led this study to pose the main research problem statement as:

“How can a better understanding of predatory publishing amongst academics and researchers at MUBAS lead to the design and development of better models of interventions to address the negative impact of predatory publishing?”

This central research question was then addressed by a series of inter-related research objectives and interdependent research questions that are outlined under paragraph 1.6.

1.4 Aim of the study

The overall aim of the study was to investigate academics’ understanding about predatory publishing practices at MUBAS in Malawi.

1.5 Research objectives

The research objectives of the study were as follows:

- a) To examine academics’ awareness about predatory journals and publishing at MUBAS;
- b) To establish factors that influence MUBAS academics to publish in predatory journals;
- c) To determine academics’ perceptions about the effects of predatory publishing on the scholarly communication process; and
- d) To determine intervention strategies that could be introduced at MUBAS to curb the practice of predatory publishing.

1.6 Research questions

The research questions of the study in line with the research objectives were as follows:

- a) Are faculty members aware of predatory publications, and have they ever published in a predatory source/platform?
- b) What factors drive faculty members to publish in predatory sources?
- c) Are faculty members aware about the characteristics of predatory journals and the existence of various tools used to determine credible journals?
- d) What intervention strategies should MUBAS put in place to curb the problem of predatory publishing?

1.7 Theoretical framework

Imenda (2014, p.185) in his study, described a conceptual or theoretical framework as the soul of every research study. The essence of theoretical frameworks is to guide researchers on key research issues such as how to explore, interpret or explain events or behaviour of the subjects under investigation. Publishing and scholarly communication are some of the core functions of universities world over. As a result, a number theoretical frameworks and models have emerged relating to scholarly publishing and communication. These among others include: The Prestige Maximization Theory; the Principal Agent Theory; the Open Access Publishing Models; and The FAIR guiding principles among others. All these models cover aspects on scholarly publishing trends and patterns.

This study was underpinned by the Prestige Maximization Model of Higher Education Institutions and the Elite Journals (Prestige model) as well as the Principal Agent Theory (The Agent Theory). The chosen theoretical lenses are grounded on maximising prestige and reputation of universities through scholarly communication and quality research outputs. Accordingly, the bases of the theoretical frameworks were in line with the overall aim of this study.

The Prestige model embodies character, renown as well as achievement of reputation based on exceptional display of brilliance (Melguizo & Strober, 2007, p.5). Institutions of higher learning, particularly universities are not profit oriented. To this end, strategic decision-making is mostly intended to achieve reputation, visibility and internationalisation of both faculty members and the institution at large. Scholarly communication and quality research outputs are some of the major factors that drive prestige of institutions of higher learning. On the other hand, the Agent theory views universities and respective faculty members as agents who discharge their responsibilities on behalf of their principals. In this case, principals refer to government, communities and funding bodies. Kivisto (2008) states that principals expect agents to publish and communicate their research findings in reputable outlets such as in top-tier journals and internationally recognized conferences. These frameworks provided a foundation for analysis and discussion of the findings. The chosen frameworks are defined and explained in-detail under Chapter Two.

1.8 Significance of the study

As pointed out by Chiware (2020) African countries face numerous socio-economic hurdles, and therefore, research funding is not prioritised. This study sought to ensure that limited funding for research is efficiently utilized in less resourced environments like Malawi. Secondly, the study sought to promote best practices in scholarly publishing and communication. The study results were therefore intended to be of significant use to the following stakeholders:

- a) Policy-makers at MUBAS and research regulatory bodies like the National Commission for Science and Technology (NCST) including government officials at the Ministry of Education Science and Technology (MoEST) and the National Council for Higher Education (NCHE): the findings of this study provides a foundation for understanding and addressing the challenge of predatory publishing at policy level.
- b) Faculty members, researchers and students: the findings of the study provide tools and guidelines for faculty members, researchers and students on how to differentiate credible and predatory journals. This will equip them with the information and knowledge for publishing their study findings in credible journals.
- c) Librarians: the study provides an opportunity for librarians at MUBAS to redefine research support services rendered to academics, researchers and students as well as enhance teaching of users about predatory publishing and scholarly communication processes.
- d) This study sought to enhance and raise awareness about predatory publishing, and thus safeguarding scientific knowledge production as well as adding knowledge on the subject of predatory publishing.

1.9 Scope and delimitations

This study was limited to one public university (MUBAS), and it was based on a case study design. Ngulube (2020 p.98) states that it is inappropriate to generalise study findings from a case study approach. It would have been appropriate to extend the scope of the study to other institutions in Malawi had it not been for the research budget issues and time constraints.

1.10 Ethical considerations

According to Saltz and Dewar (2019, p.198) the aim of ethical consideration is to maximise positive research outcomes by avoiding causing physical, emotional or moral harm to the study population and the community at large. This research study sought approval from the UWC Research Ethics Committee before commencement of data collection (refer to appendix 4). Secondly, an approval was also sought in writing from the Registrar of MUBAS to approve the research site and its activities (refer to appendix 5). Thirdly, participants were also requested to sign a consent form to demonstrate that they had voluntarily accepted to participate in the study. A letter explaining the aim and objectives of the study was sent to the participants (refer to appendix 8 & 9). Furthermore, questionnaires did not bear names of participants as all of them were treated as anonymous.

Regarding interviews with the associate professors, they were also requested to sign a consent form (refer to appendix 7) where they accepted to be audio-recorded before commencement of the interviews. Furthermore, a letter explaining the aim and objectives of the study was sent to them prior to the date of the interviews (refer to appendix 9).

1.11 Definition of key terms

Article Processing Charges (APC): the amount of money authors or their funding agencies pay to publishers in order to have their research findings reviewed, evaluated and validated before publishing (Cobey et al., 2019) as OA

Impact Factor: a metric used to measure and ascertain the impact of journal titles through the use of citation statistics. Usually this is done over a defined time period such as two years (Ward, 2016, p.776)

Open Access Model (OAM): a system that allows scholarly publications to be accessed by readers without paying anything as opposed to the subscription model (Glushko & Shoyama, 2015).

Peer Review: an evaluation process where scholarly contributions are scrutinised by external expert reviewers to ascertain originality, accuracy, relevancy and comprehensiveness (Benos et al. 2007)

Predatory Journals: non-authoritative periodic publications that claim to be legitimate scholarly publications (McLeod et al., 2018).

Predatory publishing: the practice of publishing low quality or counterfeit scholarly publications whose processes are characterised by solicitation, high APCs, and little to no peer review processes (Mills & Inouye, 2021).

Scholarly communication: a systematic process through which scholarly works are checked for quality and disseminated through the use of different platforms such as journals, books and conference papers to benefit the user community as well as curated for reuse in future (White & King, 2020, p.1138)

1.12 An outline of chapters

Chapter one outlines the introduction and background to the study, the motivation, aim of the study, research objectives and theoretical frameworks; significance of the study, limitations, ethical considerations and definition of key terms.

Chapter two reviews the literature on predatory publishing with reference to the research objectives and theoretical frameworks.

Chapter three outlines the study plan, the research philosophy, methodology and design, research site, study population, sampling technique, data collection instruments, pre-testing, and data analysis.

Chapter four presents the study findings from the survey questionnaire and the interviews.

Chapter five discusses the study findings as well as the interpretation in relation to previous studies reviewed in chapter 2.

Chapter six concludes the study and provides recommendations based on the findings. It also highlights the limitations of the study as well as areas for further research.

1.13 Chapter summary

This chapter has highlighted the background and introduction as well as the motivation of the study. The chapter has outlined the threats posed by predatory publishing in scholarly communication. Furthermore, the chapter has explained the problem statement, aims of the study, research objectives and research questions. Additionally, the chapter has provided an introduction to the theoretical framework that underpinned the study. Finally, the chapter outlined the significance of the study, limitations and ethical considerations. The next chapter covers the theoretical framework and literature review.



CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The first chapter outlined the introduction, contextual setting of the study, background, research aim, objectives and motivation. This chapter provides a detailed review of literature on predatory publishing and predatory journals. The chapter also provides an overview of the theoretical frameworks that provided a basis for discussion of the study findings. The literature review focused on four main thematic areas namely: researchers' awareness about predatory publishing and predatory journals; factors that influence academics to publish in predatory journals; effects of predatory publishing on the scholarly communication process; and intervention strategies that could be introduced at MUBAS to curb the practice of predatory publishing. The basis for choosing these thematic areas was informed by the research objectives and questions. This approach was undertaken to address the literature review systematically and comprehensively. The review analysed studies on a global level and narrowed it down to the African situation. However, there is missing data regarding predatory publishing in Malawi. Therefore, this literature review provided justification for an empirical study on this topic.

2.2 Theoretical frameworks which underpinned the study

Publishing and scholarly communication are some of the core functions of universities globally. Universities in general and individual faculty members compete for prestige and recognition in the global space, global-visibility and policy influence as well as practice through research publications (Kwiek, 2021). There are several existing theoretical frameworks that can guide the study of scholarly publishing. These include Open Access Publishing Models (Glushko and Shoyama 2015, p.8) as well as the Scholarly Communication Models (Khosrowjerdi and Alidousti, 2010, p.820) such as the information life-cycle model, the prestige model and the agent theory. These theories provide an in-depth philosophical and empirical reasoning behind scholarly publishing and communication such as making research findings available and accessible to the user community. For this study, the most appropriate were the Prestige Maximization Model of Higher Education Institutions and the Elite Journals (Prestige model) and the Principal Agent Theory (The Agent Theory). These were observed to have all elements to sufficiently address and guide the investigation on predatory publishing practices at the MUBAS.

2.2.1 The Prestige Maximisation Theory

The prestige maximisation theory originated from the field economics. In the context of higher education, it is founded on promoting prestige and renown of universities through publications in top-ranked academic journals (Kwiek, 2021).

Melguizo and Strober (2007, p.5) consider prestige as a term that refers to the reputation or renown, attained by individuals and institutions through priceless achievements. Institutions of higher learning seek reputation and renown through scientific publications, scholarship grants, funding and students' intake (Iglesias, 2014, p.46). Amongst the mentioned factors, scientific publications have a great influence on university rankings, career progression of faculty members, as well as internationalisation drive of higher education (Morales et al., 2021, p.1).

Kwiek (2021, p.498) describes the Prestige model in relation to research-driven institutions where universities, faculties, departments, and academics are perceived as prestige maximisers. Just as commercial business entities, industries and conglomerates operate to maximise profits, universities predominantly seek prestige through scientific publications, patents and global visibility. Melguizo and Strober (2007, p.635) indicates that, not only do universities and departments seek prestige but also individual academics. Generally, when the reputation and impact of faculty members improve through research outputs, there is a proportionate increase of reputation and influence of their respective universities, funders, and governments. Consequently, university rankings and global visibility will also improve. Brewer et al. (2005), as cited in Iglesias (2014, p.46) explains research outputs as one of the major components used by universities to maximise prestige and visibility. An exhaustive explanation about how this theory was used in this study is provided under section 2.2.3.

2.2.2 The Principal Agent Theory

According to Yallem et al., (2018), the Principal Agent Theory was founded on contractual obligations between two parties such as individuals and organisations. It is usually applied to analyse contractual relationships between the principal and the agent such as an employer and an employee respectively.

The Principal Agent Theory views universities and its faculty members as agents who discharge their responsibilities on behalf of their principals, and in this case government. Kivisto (2008) states that principals (government and funders) expect agents (universities and its faculty members) to publish

their research findings in reputable sources. Governments and funding bodies also seek recognition and prestige in the global space through their educational systems. Therefore, one of the expectations is that agents should undertake studies that increase recognition and visibility in the international arena as well as studies that can influence policy formulation and practice. Most governments expect improved ranking and prestige of their universities. Section 2.2.3 provides a deeper explanation about how this theory was applied in this study.

2.2.3 The theoretical models and the study

The two frameworks are in-line with the overall aim of this study. This study was designed to model interventions that could address the negative impact of predatory publishing at MUBAS. The underlying theoretical lens of the chosen frameworks are constructed to promote scholarship through scientific publications in credible elite journals. Such principles are in tune with the overall aim, and objectives as well as the research question of this study. The theoretical models also informed the design of the data collection instruments and analysis of the study findings. Finally, they also provided a very solid foundation for formulation of evidence-based recommendations that could be applied to deter the negative effects of predatory publishing at MUBAS.

Other studies which applied similar theoretical frameworks include Yallem et al. (2018) which explored the application of the principal agent theory in institutions of higher learning. Another one was by Iglesias (2014) which was designed to examine expenditure trends among American institutions of higher learning. While another study by Melguizo and Strober (2007) analysed the influence of salaries on maximizing the prestige of academic institutions.

2.3 Review of previous studies

This sub-section reviews previous studies on predatory publishing and brings to light factors that fuel predatory publishing as well as mechanisms that are used to limit the practice. Before delving into previous studies, it was important to trace and analyse the rise of predatory publishing. This approach helped to put the study into its proper framework.

2.3.1 Researchers' awareness of predatory publishing

Researchers' awareness of predatory publishing can best be understood by briefly reflecting on the meaning of predatory publishing and mapping the geographical distribution of predatory publishing practices.

2.3.1.1 Understanding the rise of predatory publishing

Berger (2016, p.206) described predatory publishing as an academic misconduct of publishing research findings without following a diligent peer review process as well as circumventing critical editorial policies. It is in short termed as a fake or non-authoritative method of scholarly communication which constitutes a serious misconduct in scholarly communication. Predatory publishers are motivated by self-interest, and their editorial policies lean towards making money other than promoting quality research outputs.

Mills and Inouye (2021) established that the rise of predatory publishing is attributed to the growth of the OA models of scholarly publishing. A number of scholars such as (Maurer et al., 2021; McLeod et al., 2018 and Nwagwu, 2015) agree that the OA era has created fertile grounds for predatory publishing practices to flourish. On the other hand, OA initiatives have been hailed by some scholars such as (Chiwere and Mathe, 2016; Liu, 2013) as a step in the right direction in terms of unlocking research outputs including research data, and making research findings available to a wider community. Similarly Nwagwu (2013, p.4) argued that in the African context, the OA should be mirrored as a development catalyst, and therefore the region should consider it as a window of opportunity for sharing research knowledge, software as well as empowering citizens with scientific knowledge. OA advocates have also reiterated that publicly funded research findings should be free and accessed by everyone (CARL Data Management Sub-Committee, 2009).

In light of the foregoing, it is very clear that the OA model has numerous advantages in terms of advancing open access to research outputs. It is therefore important to address challenges and obstacles that are associated with the OA initiatives such as predatory publishing.

2.3.1.2 Awareness of predatory journals

There are a number of studies related to awareness of predatory journals and publishing. Owolabi et al. (2020) study on awareness and knowledge of predatory journals among academic librarians in

Nigerian universities established that all the participants had heard about the term “predatory journals” and that 78% of the respondents had received between 1 and 10 article solicitation requests from fake publishers within a space of one week. However, the study recommended a holistic mentoring programme because most of the respondents had indicated lack of adequate knowledge on the subject. In a similar study, Beshyah et al. (2018) interviewed physicians from Middle East and Africa, and the results showed that nearly one third had never heard about predatory publishing, and about 16.67% of the respondents indicated that they may have heard about it, but they were not sure and 69.7% reported no knowledge of Jeffery Beall’s list. A study by Atiso, Kammer and Bossaller (2019) which was done in Ghana, uncovered that 80% of the respondents were aware that predatory OA journals accept articles quickly with little or no peer review nor quality control. Although these studies were done in Africa and Middle-East, the random sample that they had applied was not from a population of pure academics, and that most of these studies were not informed by any theoretical framework. Further, all the studies employed a survey approach.

The South African study (Mouton, 2017) on the extent of predatory publishing, used a random sample from a population of academics and the findings show that 4,246 South African papers were published in 48 journals which were classified as non-legitimate. The study also established that younger academics and scholars had inadequate awareness knowledge on the subject and recommended the application of useful tools that could guide them where to publish. However, the study does not state any theoretical lens that were applied in the study.

The literature review findings on awareness about predatory journals and predatory publishing practices have shown that researchers generally have heard about predatory journals but they do not have adequate knowledge on the subject. Limited knowledge about predatory publishing is detrimental. It has potential to mislead researchers to publish in non-reputable platforms unknowingly, and thus affecting their reputation and that of their institutions. It must be emphasised that the Prestige Maximisation Theory and the Principal agent theory are premised on the understanding that research publications in top-tier journals, patents and research grants promote prestige, visibility and ranking of universities globally.

In the Malawian context, there are no studies on academics’ knowledge levels of predatory publishing practices hence this formed part of the basis for a study of this nature. In an effort to thoroughly

understand the problem under investigation, this study drew lessons from studies done in other African countries such as Ghana, Nigeria and South Africa (Atiso et al., 2019; Owolabi et al., 2020; & Mouton 2017) respectively.

2.3.1.3 Geographical distribution of predatory publishing

Demir (2018) study which was aimed at establishing the geographical location of countries with the highest number of predatory journals and the location of authors used a survey and semi-structured follow-up interviews to collect data. A total of 735 predatory journals were analysed, and the results established that Predatory journals were mainly located in India (62%). There were 456 predatory journals in India, followed by the United States with 93 journals, Turkey with 29 journals, and the United Kingdom with 17 journals. Although 62% of the predatory journals are located in India, only 10.4% of the publications in predatory journals were published by Indian researchers.

Additionally, the study established that researchers from developed and developing countries published 3,938 and 20,902 articles, respectively, in predatory journals in 2017. In short, 15.85% and 84.15% of the publications in predatory journals were submitted by researchers from developed and developing countries, respectively. Data from the International Monetary (2018) was used to determine the classification of countries as developing or developed. The Demir (2018) study findings contradicts a number of similar studies which established that authors from developing and underdeveloped countries publish more papers in predatory journals (Kurt 2018; Frandsen 2017; Simón, 2016). In another study, Liu (2013) analysed 68 journals from the Beall's list and established that authors who publish in illegitimate journals were, for the most part, young and inexperienced, as well as from developing countries.

In summary, although the problem of predatory publishing is more pronounced amongst authors from developing countries, the review has demonstrated that even authors from universities in developed countries such as Europe and North America have also fallen for predatory publishing hence making this a global problem.

2.3.2 Factors that influence researchers to publish in predatory journals

Demir (2018) study which was conducted in Turkey to understand why researchers publish in predatory journals, identified many reasons for this practice. Firstly, the study highlighted promotion or career advancement as well as enhancing chances for employment in universities. Other factors included rewards and incentive motivation mechanisms, where authors are paid honoraria for their published article; a tradition called “publish-or-perish”; and unawareness about the characteristics of predatory journals. This study thus further reviewed literature on two major thematic areas namely, the “*publish or perish*” tradition and the acceptance and rejection rates of manuscripts by elite journals.

2.3.2.1 The “publish –or- perish” tradition

Yeo et al. (2021, p.1) noted that the “*publish or perish*” tradition is a long standing culture that has been entrenched in most higher learning institutions. The study called upon policy-makers to reframe the phrase to “*publish and flourish*” instead of “publish or perish” because the latter sounds sour and unpalatable to young and upcoming academics. In other words, the term “*publish or perish*” compels faculty members to publish numerous scientific papers as part of fulfilling their desire for promotion to senior positions in the university (The InterAcademy Partnership, 2021, p.64). This conditions is reported to be fueling the multiplicity of predatory journals as academics seek to avoid perishing (Kurt, 2018, ; Yeo et al., 2021). In another related study, Gasparyan et al., (2016) noted that academic advancement in most countries is dependent on the number of scholarly publications rather than on the quality of scholarly works. This condition, exerts pressure on faculty members, hence they end up being deceived to publish in predatory sources. Mouton (2017, p.1) notes that globally academics are under constant pressure to publish their works quickly. Mouton’s study observed that in South Africa, despite an approved list of publishers, there were still loopholes and a number of articles had found their way into predatory journals due to the pressure to publish quickly.

The observation by the foregoing studies, especially those on promotion for academics being based on publications needs to be reviewed further. There is need to pay special attention to those that publish limited number of articles in elite journals because such articles reflect undisputable international repute. Likewise, there is need for MUBAS and other academic institutions to consider adopting the

publish and flourish model instead of the “publish or perish” model as suggested by Yeo et al.(2021) and other scholars.

2.3.2.2 Rejection of manuscript by elite journals

The definition of elite journals is problematic and subjective. This is partly due to several metrics that are used to gauge scientific standing of journals and the underlying reasons (Abramo & D’Angelo, 2016; Franklin, 2021). Some commonly used metrics include journal impact factors (IF) and the h-index among others. Librarians use such metrics to inform their decisions in terms of budget formulation and expenditures such as acquisition. Moreover, many university administrators use such metrics to recruit, promote or terminate employment contracts (Woolston 2021, p.462). Beyond this, such metrics are also used to rank universities by different world ranking bodies such as the Times Higher and others. Such varied reasons create different interests and confusion amongst players in the scholarly communication terrain. Moreover, journal IF are subjective and varies depending on the field or discipline of study. In light of the foregoing, some universities in Netherlands such as Utrecht have abandoned the use of metrics such as IF to measure impact of journals and scholars (Woolston 2021, p.462).

This study defines elite journals as those that have high journal IF. The journal IF is one of the metrics used to compute the number of citations from a single journal over a pre-defined period of time such as two years (Ward, 2016, p.776). The IF is widely used alongside Scimago Journal and Country Rank platform among others. These determine the rank of a journal as well as its prestige. Usually journals that have an impact factor of 10 and above are classified under the top notch stratum and considered elite (Scimago Journal & Country Rank Database, 2020).

A number of scholars have expressed concern about the high rejection rates of manuscripts by the elite journals. For instance, Alrawadieh (2020, p.74) study which was done at the University of Istanbul in Turkey found out that high rejection rates of manuscripts in elite journals was one of the factors that contributed to the increase of predatory journals. In an earlier study, Shibayama and Baba (2015, p.937) emphasised that faculty members were under immense pressure to progressively improve their research profiles through quality research outputs and attracting research grants. Similarly, Kurt (2018) used a grounded theory to understand why authors publish in predatory journals, and he established that many researchers from the developing world felt that western journals or elite journals reject

their manuscript and therefore, they opt for alternative sources. The gap with grounded theory studies is that they mostly rely on qualitative research methodology approaches, and therefore there is no balancing up of the weaknesses experienced in the qualitative approach. In a study of this nature, a mixed-method methodology would have been appropriate.

In summary, the review has established and confirmed that high rejection rates of manuscripts in elite journals creates a conducive environment for predatory journals to flourish.

2.3.3 Lack of adequate knowledge on research literacy

Research literacy is a very broad term which embodies a number of concepts such as scholarly publishing literacies. The research literacy term under review in this study is confined to publishing of scholarly works as defined by Zhao (2014). Zhao (2014, p.11) constructed the meaning of research literacy in relation to the open access topography, which refers to equipping researchers with adequate knowledge and skills on journal metrics, copyright laws, quality controls, open access journals, funders' requirements and digital communication among others. Zhao considered these skills as being critical in combating predatory publishing. In the same vein, Kurt (2018) study on why researchers publish in illegitimate journals, revealed that many scholars felt insufficiently trained in research literacy, and consequently could not know how to submit manuscripts to high-profile journal publishers, while predatory journals offered to publish their manuscripts quickly. Buitrago-Cirio and Bowker (2020) study examined how academic libraries were responding to predatory publishing in America and Canada, and established the need to equip researchers with skills in research literacy to reduce predatory options. The study recommended that academic libraries should employ Scholarly Communication specialists to address the skills gap.

Both studies by Demir (2018) as well as Kurt (2018) in their conclusions, recommended that there was need for a pragmatic approach to inculcate research and publishing skills in young academics. This is important because inexperienced academics cannot publish in legitimate sources if they lack knowledge and skills on how to conduct high-quality research which can allow them make inroads into the elite journals.

The review has established that lack of adequate knowledge on research literacy is another factor that fuels predatory publishing. It has demonstrated that young and unskilled scholars are more likely to

publish in illegitimate sources. The gap in all the studies above is that they do not explicitly indicate any theoretical frameworks upon which these studies were constructed.

2.3.4 Effects of predatory publishing practices on scholarly communication process

Predatory publishing affects the reputation of academics, universities, funders and governments.

This sub-section reviews literature which demonstrate how universities and other mentioned parties are affected.

2.3.4.1 Predatory publishing and rankings of universities

According to Iglesias (2014, p.52) the history of university ranking dates back to as early as 1870, and the first person to publish statistical data on university ranking was John Eaton Junior, a commissioner responsible for education in the United States of America (USA). At that time, the volume of library collections and student population formed the basis for ranking. Since then the ranking criteria and metrics have been revised and updated. Zhao and Qiao (2017, p.1214) reported that international bodies that evaluate universities such as the Times Higher Education, CWTS Leiden Ranking, QS World University regard research output as a key component. Similarly, an earlier study by García et al., (2012, p.1081) notes that research output is at the pinnacle of university ranking. In view of the foregoing, it is therefore inevitable that predatory journals affect ranking of universities because such publications have no space in the ranking system.

2.3.4.2 Predatory publishing and the reputation of faculty members

The effects of predatory publishing, and how these affect the reputation of academics is also manifested in a lawsuit between the Federal Trade Commission (FTC) versus the Omics Group Inc. under Case number: 19-15738 of 2019 (Federal Trade Commission v. OMICS Group Inc. , 2019). The CFT had sued OMICS group for deceiving academics to submit articles and attend scientific conferences which were predatory. The court had ordered Omics Group to return the sum of \$50.1 million they had wrongfully solicited from authors. Linacre et al. (2019, p.219-220) made reference to the CFT versus Omics Group case and expressed concerns about how scholars are deceived. Thus denting not only their reputation and prestige but also that of their institutions and respective funding bodies and government.

2.3.4.3 Predatory publishing and research budget constraints

Shen and Björk (2015, p.1) examined the market characteristics of predatory journals and established that authors had paid about 178 USD per article as APCs. The CFT versus OMICS case is also a clear manifestation of how predatory publishing practices affect limited budgets for research activities in universities and other research institutions. The court had ordered Omics Group to return the sum of \$50.1 million they had wrongfully solicited from authors. Generally, universities face budget constraints to fund research activities. These sentiments are also echoed by Chiware (2020) who points out that African governments face many socioeconomic challenges and therefore funding for research is not a priority. Thus in the case of developing nations like Malawi, predatory publishing poses a serious threat to the already minimal research budget.

The effects of predatory publishing are coming out very clearly in the literature review. However, there is still a gap in terms of linking the aforementioned effects to any theoretical or conceptual framework.

2.3.5 Intervention strategies that can curb the problem of predatory publishing

This section will highlight indexing and abstracting services as well as precautionary measures that authors should use and check in order to avoid publishing in predatory journals.

2.3.5.1 Indexing Services

Balehegn (2017) in his study on why there was increased publication of predatory journals by developing countries, outlined a number of tools, strategies and interventions that could be applied by faculty members to avoid publishing in predatory sources. Some of these are as follows:

- a) Authors should be cautious and resist responding to unsolicited e-mail invitations for submission of a manuscript;
- b) Authors should apply evaluation measures to identify where to publish their works. This can be done by referring to journal metrics such as, Journal Citation Reports, on the Web of Science, Scimago Journal and Country Rank among others;
- c) Authors should also evaluate if a journal is indexed by any legitimate indexing services like Scopus, under Elsevier; Eigenfactor, under University of Washington; Centre for Science and Technology Studies (CWTS), under Leiden University; Web of Science, Master Journal List.
- d) Authors should also check with Professional Publishing bodies as well as credible Open Access database like the Open Access Scholarly Publishers Association(OASPA); Committee

on Publication Ethics (COPE); Directorate of Open Access Journals(DOAJ); International Committee of Medical Journal Editors (ICMJE); World Association of Medical Editors (WAME); Council of Science Editors (CSE); Scientific Electronic Library Online (SciELO); and the Institute of Electrical and Electronics Engineers (IEEE) among others.

- e) Authors can also use a rubric known as Think Check Submit.
- f) Authors can also use Open Researcher and Contributor ID (ORCID) or the Author ID to get information from other scientists. Although author IDs are used to uniquely identify authors with their works, they can also be used as quality-control check-points in the scholarly communication settings. They can be used to get information about journal quality.

Yeo et al. (2021) also summarised some precautionary measures that authors should look out for, and be cautious when it comes to where to publish. The highlighted red-flags for knowing predatory journals included manuscript solicitation through emails; ambiguous scope and subject coverage; name of a journal resembling a legitimate one; insufficient contact information; lack of editors or editorial board; bogus impact factor; fabricated claims about indexing; and editors with no or false academic accolades among others.

2.3.5.2 Research literacy programmes and scholarly communication initiatives

Clark and Smith (2015) point out that research centers and academic institutions in low and middle income countries should improve on training, and mentorship in order to enhance publication literacy, especially among junior researchers. Further, Cohen (2017) argued that in most cases, researchers who collect quality data and write quality manuscript will also obviously take time to scrutinise and identify a quality journal to publish their findings. Buitrago Ciro and Bowker (2020, p.649) in their study, also established that in America and Canada, academic institutions had employed specialised scholarly communication librarians to assist researchers in research endeavors. These studies recommended the development of a culture of research mentoring, and team publication as a strategy for helping young researchers to learn.

Studies by Murphy (2019) and Lopez and Gaspard (2020) have recommended that universities in developing countries need to compile and publish a whitelist of journals on their websites. This would ease the challenge that mics face in choosing where to publish their work. Such a list could be reviewed periodically to accommodate emerging legitimate journals and remove those that have been

discontinued or blacklisted. On the other hand, Mouton (2017, p.8) established that scientific publishing in South Africa is mostly influenced by the South African DHET list of accredited journals as well as the DHET subsidy system. The DHET list and system provides a platform where researchers are recommended where to publish their work, and they are paid honoraria. However, Mouton's study also established that there was a penetration of predatory journals in the DHET list. Likewise, Macháček and Srholec (2021, p.1918) reported that there was an infiltration of fake journals in the Scopus database. Further, the study alerted university ranking bodies, and research evaluators that rely on Scopus data when making their decisions to take precautionary measures. In light of the foregoing studies, it is evident that predatory publishing is a complex syndicate, and therefore it requires a multifaceted and multidisciplinary approach.

The gap in the foregoing studies is that they have not addressed the issue of journals that are still in their initial stages and phases. In other words, how can journals that are relatively "*young*" be accredited and be recognised in the international space of scholarly communication. In fact, this accreditation procedure seems to include only those journals that are available on line. Indeed, in Africa and those countries and regions where the internet is problematic do have journals which are available only in print formats yet such journals undergo serious review processes. This kind of practice creates critical gap and a form of epistemic exclusion. Similarly, most universities aspire to improve their ranking and visibility levels through such initiatives as introducing or starting new journal titles which are unfortunately considered non-credible just because they are in their infant stage.

2.4 Chapter summary

The literature review above has established that predatory publishing is a global pandemic particularly in this era of open access. The review has demonstrated that although young researchers from developing nations top the list of authors who publish in predatory sources, developed nations such as those in Europe and North America have also fallen prey to predatory publishing. The review has also demonstrated that high rejection rates in prestigious journals; lack of adequate awareness; lack of proper guidance; inadequate research literacy in terms of where to publish, and the “publish or perish” tradition have pushed researchers into publishing in predatory platforms. The review has also established that predatory journals can cause a lot of harm to science and research budgets thereby affecting the ranking, reputation, global-visibility and prestige of various universities and their respective faculty members. Equally, it has been demonstrated that there are techniques which can be applied to avoid predatory publishing although most of these techniques are not known by many researchers in developing countries. Although many studies have not explicitly highlighted the role of librarians in this regard, still many have postulated that librarians in institutions of higher learning should take a leading role in educating researchers about predatory journals.

Finally, the review has identified some gaps such as that most studies were not grounded in any theoretical framework. To this end, the basis for analysis of the study findings, summary of the study conclusion, and recommendations have often been missing. Secondly, the review has also demonstrated that there are no studies which were done on this topic in Malawi, hence the need for the current study. The following chapter explains the research methodology.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter focusses on a plan for the study. It explains the research philosophy, research method and research techniques, as well as research instruments. In addition, the chapter highlights sampling techniques in terms of how the study participants were selected as well as how data gathering instruments were designed and administered. Furthermore, the chapter explains data presentation, analysis and study limitations, as well as ethical considerations.

3.2 Research philosophy

This study adopted the post-positivist paradigm, a philosophical approach that combines positivist and interpretivist paradigms (Cresswell, 2013, p.23). According to Carminati (2018) Positivist philosophy shapes quantitative research studies which are governed by strict laws of measurements such as probability. On the other hand, the interpretivist paradigm is intertwined with qualitative research studies which focus on understanding human behaviour or feelings in natural settings. Essentially, post-positivist investigators believe in holistic approaches to an inquiry, and the thinking is that there could be many factors compounding the problem. Therefore, to unearth all factors associated with the problem, both qualitative and quantitative methodologies are integrated in a single study (Creswell, 2013, p.23). This paradigm was adopted because it enabled the study to use both quantitative and qualitative methodologies to ensure validity as well as reliability of the research findings.

3.3 Research approach

This study employed a mixed method research approach. Schoonenboom and Johnson (2017, p.108) have defined mixed method research as an approach where the researcher integrates features of qualitative and quantitative elements in one study in order to circumvent the flaws associated with a single research methodology. Since there are six types of mixed methods research designs, this study specifically adopted a Sequential Explanatory Design (SED). SED is a two-phased design where quantitative data is collected first and later followed by qualitative data (Creswell & Clark, 2017, as cited in Tewari et al., 2021, p.2). In this study, quantitative data was the first to be collected, using a survey questionnaire. The results from the survey questionnaire were used to inform the development of an interview guide for the qualitative component of the study. The qualitative data was collected from Associate Professors at MUBAS. The results from the quantitative and qualitative

data sets were later integrated and reported as part of the study findings. This approach was undertaken to enrich and ensure the validity and reliability of the findings as well as make recommendation on how best predatory publishing can be avoided by academics at MUBAS.

The adoption of a sequential explanatory design, provided a fulcrum to link as well as to integrate the findings from the survey questionnaire and the interviews. In addition, this design provided a foundation for exploring and interrogating critical themes of the study. Such themes included academics' knowledge of predatory journals and the associated effects as well as interventions that could curb the practice of predatory publishing at MUBAS. This aimed to provide a deeper understanding of the major themes that linked academics' knowledge of predatory publishing and lived experiences. Associate professors and professors are generally accomplished scholars, and therefore the SED laid a foundation for probing and explaining the findings from the survey questionnaire. This was ideal in order to develop solid interventions, valid as well as reliable study recommendations.

3.4 Research design

A case study research design was used to explore and interpret academics' knowledge of predatory publishing practices. Crowe (2011, p.1) distinguished a case study method from an experimental method, and observed that a case study is an approach where the researcher investigates subjects in their real natural environment. The aim is to collect empirical evidence based on real-life experiences as opposed to experimental studies. In this study, a case study was appropriate because the participants were required to share their real life experiences as regards to predatory publishing. Secondly, a thorough and empirical approach was ideal because there was only one study site (Crowe, 2011, p.1). The disadvantage of a case study method is that the findings cannot be generalised. In this case, the findings of this study are limited to MUBAS and cannot be generalised to other public universities in Malawi and beyond.

3.5 Research techniques

A research technique refers to the strategy for gathering data, and may take the form of focus group discussions (FGDs), observations, interviews, survey questionnaires, content analysis and others (Ngulube, 2020, p.150). This study employed a survey questionnaire and face-to-face interviews.

3.5.1 Survey design

A survey is described as a task that gathers information from a study population or a sample of a population in a thorough, systematic and cautious manner (Rogelberg & Stanton, 2007b) . The basis for applying systematic approaches in survey designs is to realise validity and reliability of the data collected as well as to provide the basis for generalization of the study findings. A survey questionnaire can be administered to all study participants (census survey) or a subset of a population (sample survey). In this study, the sample survey was adopted. There are a number of survey designs such as cross-sectional, longitudinal, cohort, and experimental survey designs among others. This study used a cross-sectional survey design which was administered online to gather quantitative data. A cross-sectional survey design is an approach where data is collected once within a specified timeframe (Spector, 2019) as opposed to longitudinal studies where data is collected over a series of timeframes. This design was chosen because it is economical in terms of collecting data from multiple and wide range of respondents within a reasonable timeframe. Secondly, among other factors, this study was designed to unearth knowledge of predatory publishing among academics. According to Spector (2019, p.133) a cross-sectional design is best suited to explore and examine lived experiences such as those on the practices and effects of predatory publishing.

The survey questionnaire was arranged into different sections in line with the study objectives and research questions. The questionnaire had 19 questions, and the last two questions were included to address and link between the study findings and the theoretical frameworks that guided the study. The questionnaire contained dichotomous closed-ended questions, multiple choice questions and Likert scale questions (Refer to appendix 1). This tool was used to gather quantitative data, and it was administered online through Google Forms questionnaires. The reason for choosing Google Forms was influenced by its advantage of being free, easy to use and being compatible with most statistical packages such as SPSS and Microsoft Office Excel. The disadvantage of online questionnaires nevertheless is that there is usually low response rate (Sekaran, 2003, p.256). The investigator addressed this challenge by sending reminders to the respondents periodically through emails. The questionnaire was distributed to faculty members through an online link generated from the Google Forms. The exact link for the questionnaire is accessed on:

https://docs.google.com/forms/d/e/1FAIpQLSc2hTFRnE_LpKRra81osLXW5qx-1K7F8jZPAI5MmA5ayfQRmFw/viewform?usp=sf_link

The link was sent to the sampled participants through official emails (MUBAS domain emails) and a consent form, introductory letter, as well as ethical clearance letters from UWC and MUBAS were attached to the email. The email addresses were obtained from the staff information database following the approval of the study by MUBAS authorities (refer to appendix 5). Reminders about the survey questionnaire were also sent through the same emails. The quantitative data collection was done from mid-July, 2022 up to end of August, 2022 and it took six weeks.

3.5.2 Interview design

The research interview design can take the form of structured or unstructured (Fusch & Ness, 2015). Based on the SED approach, this study adopted a structured interview design, where an in-depth interview guide was developed in line with the findings of the quantitative survey. An in-depth interview guide was administered on face-to-face basis, and it was used to gather qualitative data from professors and associate professors. The reason for adopting a structured design and a face-to-face interview approach was to guide the discussion, and probe on some explanations as well as to integrate critical themes. Secondly, the approach also explored and described respondent's personal experiences on predatory publishing.

The qualitative data was collected in September 2022 for two weeks. Each session of the interviews took about one hour. The interview guide is captured under appendix 3.2. All data collection instruments were accompanied by ethical clearance letters from UWC and MUBAS as well as consent forms. Additionally, the researcher also included an introductory letter, which explained the aim of the study as well as its significance. This approach was undertaken to motivate participants to participate in the study.

The challenge with the interviews were that most of the targeted respondents were pre-occupied with teaching roles and administrative responsibilities. In some isolated cases, other sessions had to be rescheduled to accommodate emerging issues. These challenges were minimised by allowing the respondents to choose their own date and time within a given period of two weeks.

3.6 Research site and study population

The research site was MUBAS, a public university in Malawi established under the MUBAS Act of Parliament, Number 19 of the year 2019. It was formerly known as the Polytechnic which was a constituent college of the University of Malawi. During the time of the study, MUBAS had five faculties which included faculties of Engineering; Education & Media studies; Commerce; Applied Sciences, and Built Environment.

The study population were academic members of staff as well as research scientists who work at MUBAS. Academic members of staff are mainly employed to teach and conduct research hence they were best suited to be study participants for this study. The MUBAS (2021) staff database indicates that there was a total of 269 academic members of staff including research scientists. Table 1 provides statistics for each faculty.

Table 1: Number of academics and research scientists by faculty name

SN	Name of Faculty	Total number of staff
1	Faculty of Applied Sciences	73
2	Faculty of Built Environment	48
3	Faculty of Commerce	45
4	Faculty of Education & Media studies.	42
5	Faculty Engineering	61
	Total	269

Source: MUBAS (2021). *Registry Staff Database*. Blantyre, Malawi

3.7 Sampling techniques

Creswell (2013) describes sampling as a statistical procedure used to determine the total number of observations or subjects from a study population as study participants. It is generally not possible to investigate the entire study population due to financial and time constraints. Thus a limited number of subjects are systematically chosen to represent the interests of the entire study population. Sampling techniques are used to avoid bias in sample selection as well as to provide an equal chance of being chosen to all potential subjects of the study population. There are a number of sampling techniques but they all fall under probability and non-probability sampling techniques (Creswell, 2002). This study

employed a stratified random sampling technique to select study participants and gather quantitative data. A stratified random sampling technique divides the population into smaller sub-groups named as strata based on investigators' judgement, and then a simple random sampling technique was applied to select study participants (Creswell, 2012). In this study, each faculty was designed as a stratum and a simple random sampling framework was applied to select study participants within each of the five faculties named above.

A purposive sampling technique was used to gather qualitative data from associate professors and professors. A purposive sampling technique is a non-probability sampling framework that selects subjects based on their knowledge, position or certain unique characteristics (Ngulube, 2020). For this study, professors and associate professors were chosen on the basis that such academic positions are strongly associated with professionals who have distinguished themselves through research work. During the data collection in July and August, 2022, the number of associate professors and professors at MUBAS was 15. In this study, data saturation was reached before interviewing all the 15 members. According to Fusch and Ness (2015, p.1409) data saturation is described as a situation where a research interview with new subjects does not generate any more new themes, ideas or insights to further inform or enrich the investigation. It is generally agreed that at this stage, data collection exercise can be terminated. Again, Fusch and Ness (2015, p.1409) argued that a large sample of respondents in qualitative studies does not guarantee the depth of data, and that a handful number of knowledgeable respondents can adequately inform the study as well as achieve data saturation.

3.8 Sample size

Sample size refers to the total number of subjects that have been systematically chosen to participate in the study. It is a challenging task to choose an appropriate sample size for quantitative survey designs. Creswell (2012, p.146) points out that the best approach to this challenge is to choose a large sample as much as possible in order to minimise possible errors, known as sample errors. The term sample error refers to inaccuracies that may arise from the sample measurements as compared to empirical measurements of a phenomenon or reality on the ground (Creswell, 2012). In summary, a sample size must be precise and should measure as accurate as possible to reflect reality on the ground. To achieve precision and accuracy, the sample size for this study was informed by the Krejcie and Morgan (1970) table for estimating sample size in any given study population (refer to Appendix

3). The study population for this investigation was 269 (refer to Table 1). Using this study population, a sample size of 158 participants was estimated based on the Krejcie and Morgan (1970) table for estimating sample size. Table 2 which is a partial extract from Krejcie and Morgan (1970) table was used to estimate the sample size. Refer to lines 6 and 7 to understand how the estimation was calculated.

Table 2: A partial extract of the Krejcie and Morgan (1970) Table for estimating Sample Size

SN	Study population Size (N)	Calculated Sample Size (S)
1	210	136
2	220	140
3	230	144
4	240	148
5	250	152
6	260	155
7	270	159
8	280	162
9	290	165
10	300	169
11	320	175

As described under sampling techniques, this study used a stratified random sampling framework. Therefore, to ensure that the estimated sample size was evenly distributed as well as to minimise sample errors, a simple proportion formula was used to calculate sample sizes for each stratum (faculty). According to Table 1, the total study population was 269, and the sample size was estimated at 158 academics.

The formulae was
$$\frac{\text{Number of academics in each faculty} \times \text{sample size}}{\text{Total number of academics in five faculties}}$$

Therefore, the sample size distribution for each faculty was calculated as follows;

Table 3: Computed sample sizes by faculty name

SN	Name of Faculty	Formula used	Computed sample size
1	Faculty of Applied Sciences	$\frac{73 \times 158}{269} = 42.8$	43
2	Faculty of Built Environment	$\frac{48 \times 158}{269} = 28.1$	28
3	Faculty of Commerce	$\frac{45 \times 158}{269} = 26.4$	26
4	Faculty of Education & Media studies.	$\frac{42 \times 158}{269} = 24.6$	25
5	Faculty Engineering	$\frac{61 \times 158}{269} = 35.8$	36
	Total		158

Table 3 shows the ideal or scientifically calculated sample size for each faculty. However, for the actual response rate for each faculty refer to Table 5 under chapter four.

For the interviews, the total number of associate professors and professors was 15. In view of this, the study was designed to interview all of them. According to Bryman (2016), one of the reasons behind sampling is to select a sample size that can accurately represent a larger population. In the context of this study, the number 15 was considered manageable, and therefore there was no need to apply any statistical calculations to arrive at an accurate sample size.

3.9 Pre-testing

Hilton (2017, p.21) defined pretesting as a method of ensuring that all research instruments are properly structured and understood by the intended respondents. It is done before the actual data collection. The overall aim is to remove all ambiguities that can affect the response rate as well as to ascertain that the tool's measurements in the field are in line with the study aims.

In this study, a web-based questionnaire was pre-tested using a sample of two faculty members at UWC and four senior librarians at Cape Peninsula University of Technology (CPUT). The pretesting exercise was done in the month of June, 2022 and it took three weeks. Individual consent was sought from respondents to participate in the pretesting exercise. This was done through the Director of Libraries at CPUT. The interview guide was pre-tested using a sample of senior librarians at MUBAS.

The pilot exercise brought to light some ambiguities in the research tools such as repetitions, format and structure of the research tools. The normalisation of such ambiguities improved the validity and reliability of the research tools as well as gauge the average time to complete the questionnaire and the interviews. Specifically, the pilot exercise necessitated to delete and combine some questions. For example, question number two on the survey tool was combined into a multiple-choice grid, and a follow-up open-ended question was added as question number three. Similarly, question number eight was restructured as statements instead of questions, and participants had to describe their experience with predatory journals through a five-point Likert scale. Ultimately, the pilot study improved the quality and accuracy of the research tools and enabled the researcher to draw valid conclusions for the study.

3.10 Data analysis and presentation

The quantitative data was analysed using a Statistical Package for Social Sciences (SPSS), and in some cases, Microsoft Office Excel spreadsheets were used to generate graphs while other graphs were copied directly from the Google Forms. The analysis was mainly informed by the descriptive statistics because this was more appropriate for a study that was designed to investigate knowledge of predatory publishing amongst academics at MUBAS. The analysis was done by answering research questions and objectives, and the results were presented in tables, graphs, charts and text narration. Besides these, relationships between various variables were also presented. The qualitative data was analysed by extracting themes and sub themes from the recorded audios also known as thematic analysis (Braun & Clarke, 2006). Additionally, the analysis was also informed by the Prestige Maximisation Theory and the Principal Agent Theory as the theoretical frameworks.

3.11 Ethical considerations

Ethical considerations refer to the responsibilities and obligations that the investigator undertakes to protect, and respect the rights and safety of human beings in an investigation as well as ensuring that human emotions and physical harm are controlled (Mannheimer et al., 2016, p.143). Similarly, Bryman, (2016) conjures that certain communities are vulnerable and have unique values which need to be respected in the research process. This study sought ethical clearance from the UWC Humanities, and Social Science Research Ethics Committee (HSSREC) prior to commencement of data collection (Appendix 4). In order to gain entry into the study areas, permission was sought from the Registrar of

MUBAS, and after explaining the aim of the study, approval to do the research was granted (Appendix 5). All study participants were assured of their confidentiality, and a consent form accompanied the survey questionnaire as well as the interviews. Respondents were requested to sign the consent form as an indication that they had voluntarily accepted to participate in the study. The consent form highlighted the rights of the participants in the study (Appendix 6). The consent form also provided a window for participants to withdraw from the study anytime with or without giving any reasons. Furthermore, both the survey questionnaire and the interview guide were accompanied by information letters which explained the objectives of the study (Appendix 7 & 8). Since the survey questionnaires were administered online, there was no direct or physical involvement of the researcher. Additionally, the questionnaires did not record names of the respondents as they were treated anonymous.

Bryman (2016) also highlighted that personal influence and biasness are some of the core ethical consideration in research. In this study, although a purposive sampling technique and face-to-face interviews were used to collect data, the study interviewed associate professors and professors, a group of professionals who have built their reputation through research outputs. It was therefore less likely that they could be influenced and lose focus in this area. In addition, the observations during the interview processes demonstrated that they were very clear about the overall aim of the study, and were keen to participate. The discussions were interactive and reflected on their career progression as well as predatory publishing. This is an area that most professors would be interested to participate in order to share their real-life experiences, concerns and propose some policy and practice interventions. The investigator's major role was to ask questions and ensure that the sessions were interactive. The responses were not challenging but in some cases, further interrogations had to be made. Such interrogations were not meant to challenge or influence responses but to get a broader and deeper understanding of the themes (Fusch & Ness, 2015). This approach, enabled the researcher to minimise personal bias, interests as well as respect the interest and values of the respondents. In addition, this approach helped to achieve fairness and impartiality in terms of handling all the interview sessions, interpretation of the study findings, data analysis and presentation of the findings.

3.12 Chapter summary

This chapter has provided an overall research plan for the study. Specifically, the chapter has outlined and explained the research methodology and methods that were applied in this study. It has also explained how the survey design as well as the interview design were structured. The chapter has equally explained the sampling and sample size techniques that were applied in the study. It has also described how quantitative and qualitative data sets were analysed and presented. The chapter has further highlighted how the research instruments were piloted to identify gaps, and this approach improved the response rate as all the questions were answered, and only those that were not applicable in certain circumstances had gaps. Pretesting the research instruments also helped to improve the quality of the research outcomes. The following chapter provides data analysis and presentation of the findings.



CHAPTER 4: DATA ANALYSIS AND PRESENTATION OF THE RESEARCH FINDINGS

4.1 Introduction

This chapter presents the findings from an online questionnaire (Google Forms) and follow-up interviews that were conducted with professors and associate professors at MUBAS. The data presentation and analysis were informed by the research objectives and the theoretical frameworks as outlined in section 2.2. This study was undertaken to investigate knowledge of predatory publishing amongst academics and researchers at MUBAS in Malawi. The results of the study are presented in tables, charts and graphs. These are also supported and complimented by narratives from the interviews as well as the responses from the open-ended questions.

4.2 Demographics and characteristics of respondents

An online survey questionnaire was sent to 158 faculty members and 95(N=95) of them responded. That translated into a 60.1% response rate. In some isolated cases, respondents did not answer all the questions, and therefore there are some differences regarding the total number (N) of respondents in some of the tables and charts.

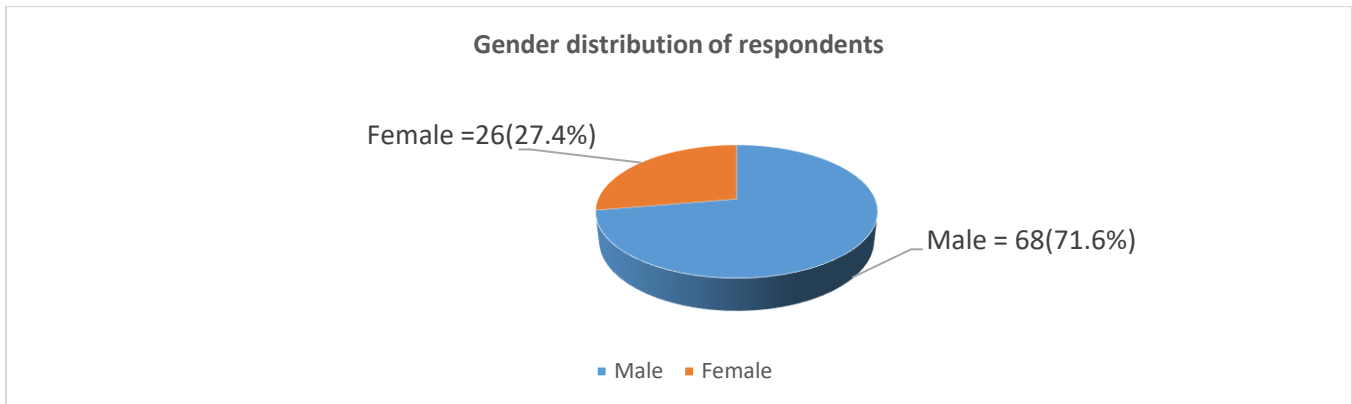
As regards to the interviews, there were fifteen (15) academics holding the ranks of professors and associate professors during the time of the data collection in July and August, 2022. Face-to-face interviews were conducted with eight (8) associate professors or 53% of the targeted population.

According to Baruch (1999, p.434) a minimum of 40% response rate in surveys is considered acceptable. Similarly, Rogelberg and Stanton (2007) echoed that over the years, the average survey response rates have dropped to 50%. The authors however argued that although low response rates may weaken the generalisability of the collected data, it is a disservice to the community or organisation to abandon a study due to such low response rates.

4.2.1 Distribution of the respondents by gender

The gender distribution for the survey questionnaire comprised of 26 females representing 27.4% of the total respondents, while sixty-nine (69) were males, representing 72.6% of the total respondents (N=95). For the interviews, the gender distribution comprised of two (2) females representing 25% and six (6)

males representing 75%. Pie -chart 1 below presents a graphical representation of respondents according to gender based on the questionnaire data.

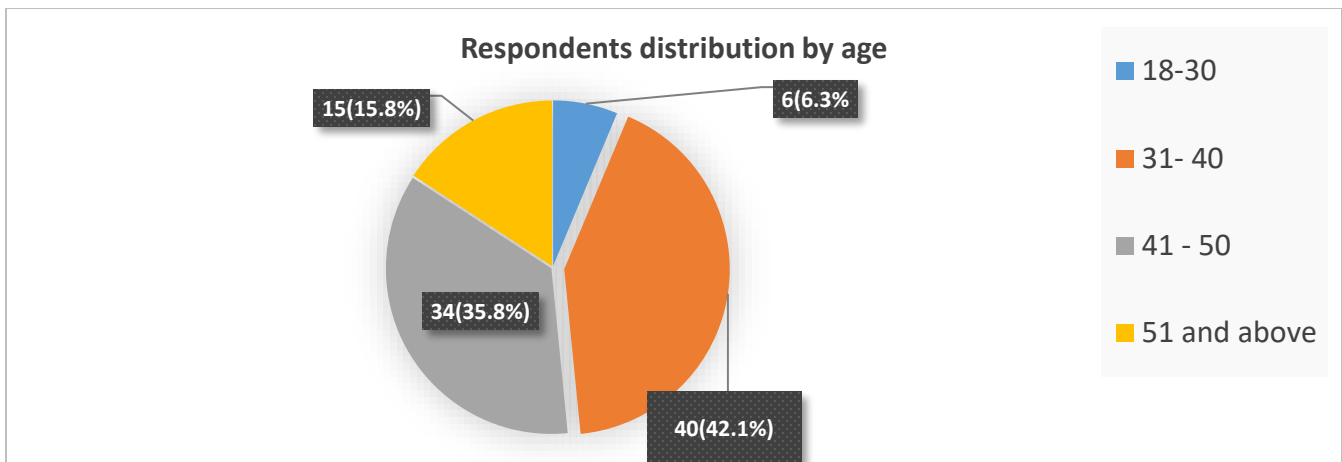


Pie chart 1: Distribution of respondents according to gender

The study clearly shows that women were under-represented. The underrepresentation of women in higher education as well as in other leadership positions across the globe, and Malawi in particular has been a long standing problem. For example, the Malawi government enacted a Gender Equality Act, 2014 alongside other policy initiatives to accelerate gender equality and integration of women into positions of authority, but the progress registered so far has been minimal. Furthermore, Santovec (2014) also lamented about the underrepresentation of women in Science, Technology and Engineering (STEM) and highlighted that attitude was the main driving force.

4.2.2 Respondents distribution by age

For the survey questionnaire, 40 (42.1%) were within the age bracket of 31-40; 34(35.8%) were between the ages of 41-50, and 15(15.8%) were in the ages of 51 years old and above, while 6(6.3%) were between the ages of 18-30. As regards to the interviews, data regarding age of the respondents was not collected. Refer to Chart 2 regarding age distribution for the survey questionnaire.



Pie chart 2 : Respondents distribution by age

4.2.3 Respondents distribution by rank and faculty

From the survey questionnaire, the distribution by rank shows that the majority adding up to 62 (65.3%) were lecturers; 12(12.6%) were senior lecturers; 11(11.6%) were staff associates and assistant lecturers; 7(7.4%) were associate professors and 1(1.1%) was a professor. Table 4 provides a summary of findings according to rank of respondents.

Table 4 : Summary of the respondents' findings according to rank

SN	Rank of respondents	Frequency	Percentage
1	Staff Associate/Assistant Lecturer	11	11.6
2	Lecturer	62	65.3
3	Senior Lecturer	12	12.6
4	Associate Professor	7	7.4
5	Professor	1	1.1
6	Research Scientist	2	2.1
7	Total	95	100.0

The distribution of the survey respondents according to faculty name is shown in table 5. In summary, 30 (31.6%) were from the Faculty of Applied Sciences; 14(14.7%) were from the Faculty of Education and Media Studies; 21(22.1%) were from the Faculty of Engineering; 16(16.8%) were from the Faculty of Commerce and 14(14.7%) were from the Faculty of Built Environment.

The distribution of the survey respondents according to faculty reflects the stratified random sampling technique that was applied, and the subsequent adoption of the Krejcie and Morgan (1970) Table for Estimating Sample size which was used to determine sample size for each faculty (Refer to table 3).

Table 5: Survey respondents' distribution according to faculty name

	Name of Faculty	Frequency (<i>f</i>)	Percentage (%)
1	Faculty of Applied Sciences	30	31.6
2	Faculty of Education and Media Studies	14	14.7
3	Faculty of Engineering	21	22.1
4	Faculty of Commerce	16	16.8
5	Faculty of Built Environment	14	14.7
6	Totals	95	100

As regards to the interviews, all the respondents were Associate Professors. There were 2(25%) from the faculty of engineering; 4(50%) from the Faculty of Applied Sciences, 1(12.5%) from the faculty of Commerce, and 1(12.5%) from the faculty of Education and Media studies.

For purposes reporting, the questionnaire participants are termed as respondents while the interview participants, considering that they were all associate professors, they are termed professor 1, 2, 3, etc.

4.3 Knowledge of predatory publishing

This study was undertaken to determine academics' awareness about predatory publishing at MUBAS. Secondly, the study sought to establish factors that influence academics to publish in predatory journals. Furthermore, the study was undertaken to determine academics' perceptions about the effects of predatory publishing on the scholarly communication, and to propose interventions that can be introduced at MUBAS to limit predatory publishing.

4.3.1 Academics' awareness about predatory publishing

The survey questionnaire under section B, sought to establish if faculty members were aware about predatory publishing. In order to contextualise the question on awareness, respondents were asked to choose *yes or no* if they were aware about the terms (predatory publishing, predatory journals, Beall's list, and other tools that track predatory journals or predatory conferences). And, where yes was

chosen, a follow-up open-ended questions required the respondents to provide further descriptions and clarifications. Table 5 below provides a frequency of responses and percentages regarding academics' awareness of predatory publishing.

Table 6: Academics' awareness of predatory publishing

SN	Are you aware of the following terms?	Yes		No	
		f	%	f	%
1	Predatory publishing	82	86.3	13	13.7
2	Predatory journals	89	93.7	6	6.3
3	Beall's list of predatory journals	53	55.8	40	42.1
4	Any other tools that list predatory journals	27	28.4	68	71.6
5	Predatory conferences	39	42.4	53	57.6

From table 6, it has been established that awareness of predatory publishing is around 86.3 % while awareness of Beall's list was at 55.8%. On the other hand, awareness of other tools that list predatory journals was at 28.4%; while awareness of predatory conferences was at 42.4%. Respondents who answered in affirmative described predatory publishing as a deceptive, illegitimate and low standard practice of scientific publishing. The data findings have also shown that awareness of Beall's list was generally not as good (55.8%) as anticipated. Some academics indicated that they came to know of Beall's list during promotion assessments, and they blamed the Academics Promotions Committee (APC) for including Beall's list in the promotion's criteria. For example, one respondent stated as follows:

Beall did so because he was against people publishing in journals in the East. It is a thinking that everything that comes from elsewhere other than the West is not good enough. That is my problem. I wish you focused on predatory issues without having to include "Beall's list" as part of the process. That in my view makes it less scientific.

Although some academics blamed Beall's list as not being accurate, others felt that Beall's efforts brought to light some unethical editorial processes in the scholarly communication. They then recommended that further studies should be done based on Beall's findings in order to address any gaps that might have been available in this list.

A follow-up question sought to find out if academics ever consulted such lists before publishing their works, and 66(69.5%) responded in affirmative; while 27(28.4%) indicated that they did not consult

this list. Furthermore, when asked to choose whether they had inadequate knowledge about the characteristics of predatory journals, 35(36.8%) agreed while 25(26.3%) were not sure, and 35(36.8%) disagreed. The general impression about these findings is that there was a considerable number of academics who were more likely to publish their works in predatory platforms due to lack of and/or limited knowledge. The data findings have also established that 28.4% of the respondents did not consult or refer to any sources that provide information regarding predatory journals when considering where to publish their works.

4.3.1.1 Academics' experiences with predatory journals

Respondents were asked to state their real-life experiences, and related characteristics of predatory journals. To re-align the question with the current context, respondents were asked to rank their agreement with certain statements on a five-point Likert scale (strongly disagree, disagree, neutral, agree and strongly agree). Table 7 lists the statements and summarises the findings.

Table 7: Academics' experiences with predatory journals

SN	statement	strongly disagree		disagree		neutral		agree		strongly agree	
		<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
1	I once received an email from publishers requesting me to send a manuscript for publication	18	18.9	12	12.6	16	16.6	14	14.7	33	34.7
2	I once published an article in a journal that I did not have adequate knowledge about its credibility	29	30.5	21	22.1	19	20	10	10.5	16	16.8
3	I once published an article in a predatory journal but did not have the knowledge/skill of how to retract my publication	30	31.6	19	20	27	28.4	9	9.5	9	9.5
4	I always consider the quality of a journal prior to sending my work for publication	18	18.9	3	3.2	16	16.8	21	22.1	35	36.8

The results from Table 7 shows that 10(10.5%) and 16(16.8%) totaling to 27.3% of the respondents had at some point received emails from publishers soliciting manuscript for publication. Furthermore, the results show that 9(9.5%) agreed and another 9(9.5) strongly agreed that they had at some point published an article in a predatory journal. Thus about 18(19%) of the total respondents had ever published in a predatory journal while 27(28.4 %) were not sure if they had ever published in a predatory journal. These findings confirm that some academics (19%) had at some point published their articles in a predatory journal, which confirms that the problem does exist.

4.4 Factors that influence academics to publish in predatory journals

One of the open-ended questions required academics to describe factors that influence them to publish in predatory journals. Respondent 1, indicated as follows, *“when you are at an early stage of research career, it is difficult to know predatory journals”*. Respondent 2, *“the pressure to “publish or perish” for academicians to get promotion is one of the factors that influence many scholars to publish in predatory journals. Similarly, respondent 3 reported that it is due to desperation after a number of rejections from well-known established journals.*

4.4.1 Academic career-progression

A close-ended question required respondents to state their perception on the statement that faculty members are under constant pressure to gain promotion through research outputs by choosing either true or false. Data findings established that 78(83.9%) of the respondents said that it is true; while 15(16.1%) said that it was false. During the qualitative interviews with professors and associate professors, it was also established that most academics rush to publish their papers in order to satisfy promotion conditions. These findings can be attributed to lack of adequate knowledge on research literacy skills amongst some academics which can help them publish their research findings in credible journals.

4.4.2 Lack of adequate knowledge on predatory publishing

Respondents were asked to choose either true or false on a statement that said faculty members at MUBAS in Malawi had adequate knowledge on predatory journals. The data findings established that 61(64.2%) chose false, while 34(35.8%) chose true. Further, 64(67.4%) of the respondents observed that inexperienced faculty members were more likely to publish their works in predatory platforms than experienced academics and the remaining 31(32.6%) disagreed. In short, these results

demonstrated that most respondents believed that limited knowledge of predatory publishing fuels predatory publishing at MUBAS.

4.4.3 Rejection of manuscript in top-tier journals

A closed-ended question asked respondents to select either agree, disagree or not sure on a given statement. The statement was formulated to establish if academics believed that rejection-rates in top-tier journals fuels predatory publishing. The data findings are shown in Chart 3.

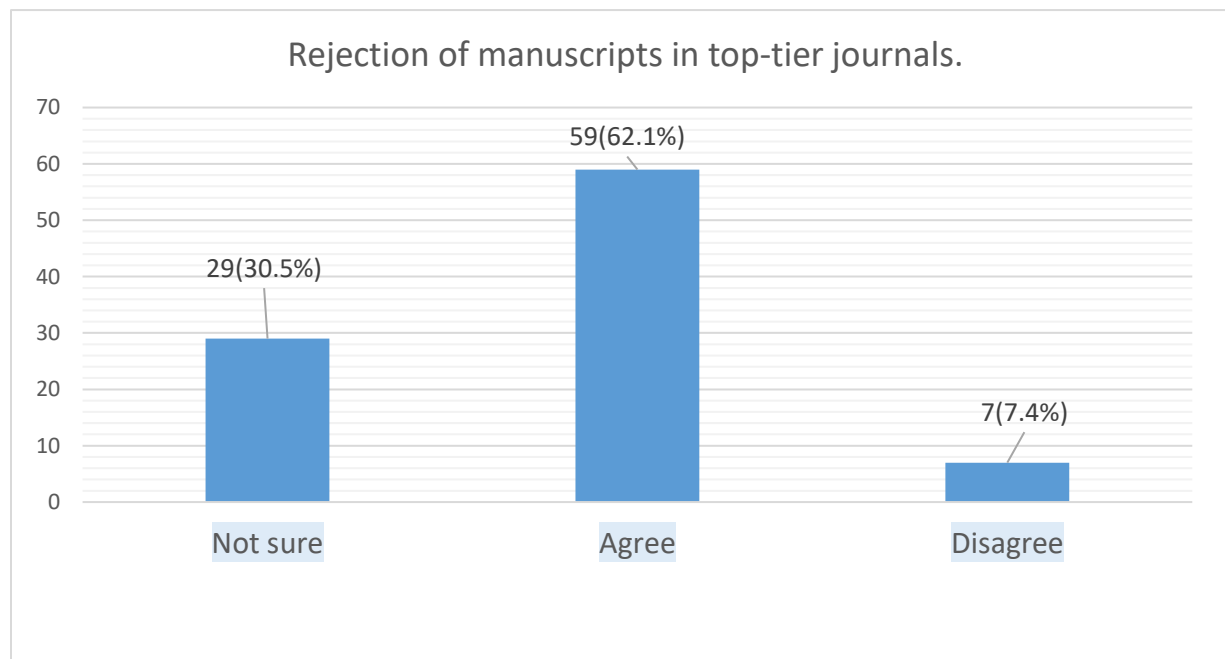


Chart 3: Rejection of manuscripts in top-tier journals

The data findings shown above established that 59(62.1%) of the respondents agreed that rejection-rates in top-tier journals fuels predatory publishing, while 29(30.5%) were not sure, and 7(7.4%) disagreed with the statement. Nevertheless, during the qualitative interview sessions, professors and associate professors disagreed with this view. They indicated that most academics in early research careers have limited knowledge on how to comply with the rigorous peer review processes, and they easily get frustrated along the way. Professor number 1 said this:

Most academics would like to rush and publish their papers within a short space of time without due regard to quality. Inexperienced academics do not search for best journals that suit their scope, and since predatory publishers widen their scope, manuscripts are rarely rejected. Promotions to senior academic ranks is based on quality research outputs, and therefore

academics should not aim at publishing many papers within a year, but they should harness their efforts to publish at least one paper in a credible journal.

Furthermore, professor number 2 highlighted that research findings influence policy and practice, and he further reported that in the health sector, predatory publishing poses a serious risk to the wellbeing of the general populace as it impacts human life. This means that there are misplaced assertions and beliefs surrounding rejection-rates in top-notch ranked journals. This is a serious problem which requires to be addressed through among others orienting upcoming researchers on peer review processes, and research literacy in general.

4.5 Effects of predatory publishing on the scholarly communication process

To unearth the effects of predatory publishing, an open-ended question required participants to state their views on what they thought were the negative effects of predatory publishing. The data analysis revealed three areas that were affected. These included research budgets, research outputs, ranking of universities, as well as reputation, and profile of academics.

4.5.1 Research budget and research outputs

During the interviews all professors and associate professors agreed that predatory publishing poses a serious threat to the limited research budgets. Additionally, 64(67.4%) of the respondents strongly agreed that it is a waste of research funds to publish articles in predatory sources. Respondent K, for example, attested that universities associated with predatory publishing cannot attract international funders and partners. Moreover, respondent Y pointed out that it is a deterrent to the generation of meaningful knowledge, and that in disciplines such as medicine, predatory publishing puts at stake lives of people since such knowledge is likely to be used elsewhere. This respondent then concluded that predatory publishing is a dangerous practice.

4.5.2 Ranking and reputation of universities

Related to this, 79(83.2%) of the respondents indicated that predatory publishing affects visibility and ranking of universities on the international scale. Respondent Z mentioned that such a practice has potential to scare prospective students, and scholarly partners. Thus high-ranked universities and staff may not be willing to collaborate with such universities that are embroiled in predatory publishing practices.

4.5.3 Reputation and profile of academics

During the interviews, professor 5 stated that predatory publishing erodes the profile and reputation of academics. Likewise, 84(88.4%) of the survey respondents reported that predatory publishing

affects the reputation and global recognition of faculty members. Furthermore, professor number 7 and 8 agreed that knowledge generation is one of the core responsibilities of academics, and quality research outputs are critical ingredients for building a career-profile in the industry of academia.

4.6 Interventions and strategies to curb predatory publishing

To establish interventions that could curb the problem of predatory publishing, respondents were asked to state if they had ever attended any training on predatory publishing, and 68(71.6%) said that they had not attended any, while 27(28.4%) responded affirmatively. Another multiple-response question was posed, which required respondents to select tools or systems that they use to check credibility of journals before sending manuscripts for publication. The data findings established that consulting the librarian had the highest response rate of 50(53.2%) while the use of indexing systems such as Scopus was selected 47 times (50%). Refer to chart 4 for specific figures and further details.

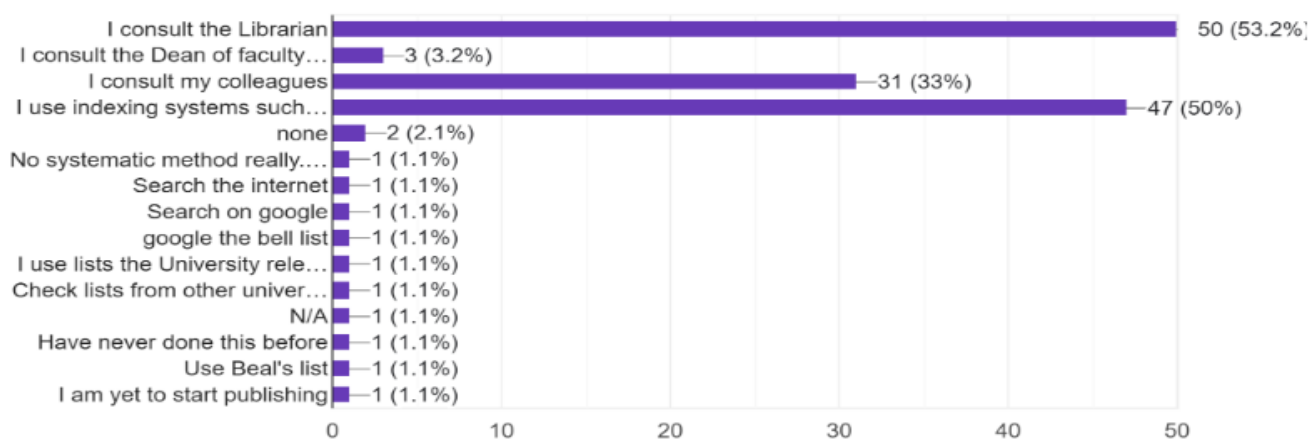


Chart 4: Tools and systems used by respondents to check credibility of journals

The foregoing findings places the library as a critical department in the fight against predatory publishing. The library is therefore properly positioned to equip academics with relevant knowledge and skills on predatory publishing. Furthermore, in an open-ended question, respondents were asked to state what should be done to curb the problem of predatory publishing. Most of the respondents indicated that the library department should each year publish a list of credible journals to guide academics. Other respondents indicated that MUBAS Academic Committees should review manuscripts, and vet journals prior to sending manuscript for publication. In summary, Table 8 presents interventions that were put forward by respondents according to responsibilities that different departments like the library, Academic Committees and other Research Support Units should perform.

Table 8 : Findings on interventions that can be put in place to curb predatory publishing

Library department	Academic Committees	Research support Units
<ul style="list-style-type: none"> • The three arms of MUBAS mentioned in the question MUST come up with a list of Journals in which members of MUBAS may publish. MUBAS does not currently have such a list. MUBAS adopts lists from other universities and organisations which may not be suited to MUBAS's context. • Each year, the Library should publish a list of credible journals. • The Library should constantly provide reminders on how to identify predatory journals. • The Library should offer trainings on predatory journals regularly. • Advocate for a policy on predatory publishing. • The Library should constantly notify faculty members of the list of predatory journals. • It should run orientation activities especially to new members of staff. • It should index all predatory journals and update them regularly. • Those who go to publish in predatory journals should do so while knowing the journals they are dealing with are predatory. 	<ul style="list-style-type: none"> • Departments should have control over generated data to ensure it is published in right journals. They can set up journal review teams of senior members to guide those who do not know well. • Academic promotion Committees should be screening articles published in predatory journals. • Promotions Committees should emphasise on the effects of publishing in predatory journals as regards promotion prospects. • Academic Promotions Committees should reduce the pressure of "publish or perish" factor on academicians • APC should provide added advantages for those who publish in non-predatory journals. 	<ul style="list-style-type: none"> • Research units should enhance quality research that can easily be accepted in high-tier journals. • Other research units should consider incentivizing publication in reputable journals. • Research units should enhance quality research that can easily be accepted in high-tier journals. • The Research Unit should introduce formal mentoring programme on research literacy rather than having departments and faculties conducting uncoordinated mentoring programmes

The findings in Table 8 demonstrate that there is need to and enhance research mentoring programmes amongst academics by developing relevant policy frameworks on predatory publishing. The data findings have also shown that there is no Research Ethics Committee (REC) at MUBAS, although they are planning to have one. Furthermore, it was also reported that there were efforts to establish a directorate responsible for Research and Innovation. Thus, if these efforts are implemented, they surely promote good quality research outputs.

4.7 Quality Assurance and Research outputs

The study included quality assurance and research outputs questions in order to link the study findings with the chosen theoretical frameworks outlined in section 2.2. In this vein, respondents were asked to select their agreement with the given statements by selecting either agree, disagree or not sure. Table 9 provides a statistical summary of the responses.

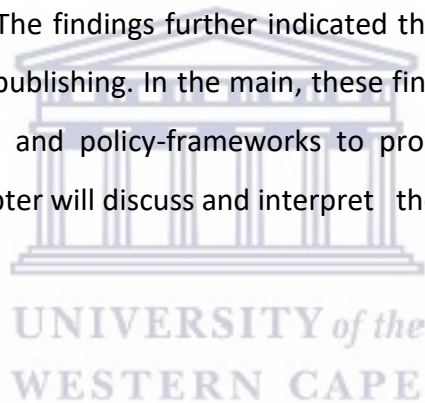
Table 9 : Gauging the importance of quality research outputs

	Statement	Agree		Disagree		Not sure	
		<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
1	There is a strong correlation between quality research output and reputation of a university.	88	92.6	0	0	7	7.4
2	Universities with good quality research outputs are more likely to attract more funding from government and other donors.	85	89.5	1	1.1	9	9.5
3	Predatory journals erode the reputation of academics and their respective institutions.	83	87.4	5	5.3	7	7.4
4	Good quality research can maximise prestige and ranking of MUBAS as university in Malawi and beyond.	91	96.8	0	0	3	3.2
5	MUBAS should establish a Research Ethics Centre/ Directorate.	86	91.5	2	2.1	6	6.4

In general, the majority of the respondents which was 91(96.8%) agreed that good quality research promote ranking of universities while 83(87.4%) of the respondents attested that predatory journals do erode the reputation of academics and their respective institutions. In summary, Table 8 above have demonstrated that knowledge about the importance of quality research outputs is above 87% amongst the surveyed respondents. Although these knowledge levels are encouraging, it is a concerning situation to note that some academics within the range of 3.2% - 9.5% were not sure about the importance of good quality research outputs. Additionally, a matter of concern was that 5(5.3%) disagreed with the statement that predatory journals erode the reputation of academics and their respective institutions.

4.8 Chapter summary

This chapter has presented the research findings which were gathered using online survey questionnaires through Google Forms, and face-to-face interviews that were conducted with associate professors. The data findings have shown that faculty members have heard about Predatory publishing, but they lack adequate knowledge about the characteristics of predatory journals as well as techniques of identifying them. The data have also indicated that the problem of predatory publishing is prevalent at MUBAS in Malawi, and that some academics have fallen prey to the practice. While there are efforts on the ground to address this problem, these findings have shown that such efforts are not adequate, and that there is no policy to systematically curb this challenge. The data have also shown that more training is required in this area since at the moment mentorship trainings are done on ad-hoc bases by some faculties and departments. Equally, the findings have also shown that most faculty members are aware of the effects of predatory publishing as well as the factors that promote predatory publishing. The findings further indicated that high-rejection-rates by top-notch journals equally fuel predatory publishing. In the main, these findings have indicated that MUBAS in Malawi lacks formal structures and policy-frameworks to promote research literacy and quality research outputs. The next chapter will discuss and interpret the study findings.



Chapter Five: Discussion and Interpretation of the findings

5.1 Introduction

This study was undertaken to investigate knowledge of predatory publishing amongst academics and researchers at MUBAS in Malawi. The goal of the study was to develop evidence-based models of interventions that could address the negative impact of predatory publishing at MUBAS. The study attempted to bolster ongoing debates about quality assurance in the scholarly publishing and communication landscape in the era of open access. The discussion and interpretation of the study results is founded on the analysis of quantitative and qualitative data. The study was anchored on the Prestige Maximisation theory and the Principal agent theory (Refer to Chap. 2 under par.2.2). The interpretation and discussion of the results is aligned to both the research objectives; the adopted theoretical frameworks, and other related studies as outlined in Chapter two. The first research question explored academics' awareness about predatory journals and predatory publishing. The second one dealt with factors that influence academics to publish in predatory journals, while the third research question investigated academics' perceptions about the effects of predatory publishing on the scholarly communication process. The last research question sought to identify interventions that could be introduced at MUBAS to curb the practice of predatory publishing.

5.2 Are faculty members aware of predatory publishing?

The first research question inquired faculty members about awareness of predatory publishing and other tools that list predatory publishing. The findings as outlined under chapter four established that most faculty members were aware about the term predatory publishing. These findings agreed with other findings of similar studies done in middle East and Nigeria (Beshyah et al., 2018; Owolabi et al., 2020). Although most academics had indicated that they were aware of predatory journals, there were some serious gaps regarding awareness of tools that list predatory journals, including the Beall's list. It was established that there was need to enhance and intensify awareness programmes on predatory publishing with a particular focus on tools and systems that list predatory journals.

5.2.1 Consternations surrounding Beall's list

One aspect that came out clearly is the consternations surrounding Beall's list. While some academics felt Beall's efforts were commendable, others felt that such efforts were meant to discourage scholars publishing in journals from the East. They further argued that the aim was to suffocate the economic gains that the East was registering at that time. Other academics faulted MUBAS's Academic Promotions Committee (APC) for including Beall's list in the promotion criteria. They argued that Beall's list keeps on changing with time and that at some point it was challenged in a court of Law in the United States, where Beall indeed lost the case. Indeed, the controversies surrounding Beall's list are further found in a number of studies. For example, Mouton (2017, p.2) study on predatory publishing highlighted some critical gaps related to the methodology that was used by Beall to classify some of the journals as predatory. Similarly, Lopez and Gaspard (2020) also echoed that Beall's methodology was weak and feeble. Despite these flaws, both Mouton (2017) and Kimotho (2019) concluded that Beall's study at least exposed critical gaps related to quality assurance in the industry of scientific publishing. Furthermore, Buitrago and Bowker (2020, p.625) concluded that the parameters used to determine as a journal as predatory are not easy to pin-down and justify. Thus, most research-driven universities have developed their own systems and practices that promote awareness on predatory publishing, and this signals the mistrust universities have had on Beall's list.

5.2.2 Have faculty members ever published in any predatory journal?

As a follow-up question on awareness, another question sought to establish if faculty members had ever published in any predatory journal. The findings established that about 19% of the respondents had at one point published in a predatory journal. Thus, confirming that the problem indeed exists. While the findings showed that some academics consult relevant lists to ascertain the credibility of journals before sending their manuscripts for publication, others said that they never consulted any lists. According to Ward (2016), the problem of predatory publishing is a global issue, and most academic institutions are grappling with this challenge. Although there are these challenges, the data established that there were potential efforts on the ground to establish research support structures which will, among other roles, promote and broaden a culture of quality research outputs at MUBAS in Malawi.

5.3 What are the factors that motivate faculty members to publish in predatory sources?

One of the research questions sought to identify the reasons academics publish their research findings in predatory journals. The findings established several factors. This section interprets and discusses such factors in detail.

5.3.1 Limited knowledge about the characteristics of predatory journals

The findings established that lack of adequate knowledge about the characteristics of predatory journals coupled with limited knowledge on research literacy are major factors that influence academics to publish in predatory journals. The literature review has also identified lack of knowledge about predatory publishing as a critical gap. Although some respondents indicated that they were once trained on predatory publishing, the majority (71.6%) said that they had not attended any training in this area. Furthermore, the data findings have also revealed that research mentoring activities are done haphazardly, and most research support structures such as REC as well as the Directorate of Research and Innovation (DoRI) were yet to be established. Despite these challenges, there were plans in the pipeline to constitute and reinvigorate relevant structures and systems in order to equip academics with research literacy skills as well as knowledge regarding predatory publishing and its consequences. These efforts are in tandem with other reviewed studies such as Clark and Smith (2015) who concluded that universities should restructure their research mentoring programmes as a response to predatory publishing. Similarly, Kurt (2018) asserted that many academics were insufficiently trained in research literacy skills. Kurt then observed that such academics could not adequately understand the peer review processes as well as the editorial procedures demanded by reputable journal-publishers.

5.3.2 Rejection rates in elite journals

In this study, 62.1% of the respondents stated that high rejection rates in top ranked journals have fuelled predatory publishing. Although this was contested by some academics in the current study, still a number of studies such as Alrawadieh (2020, p.74) and Kurt (2018) have all established that high rejection rates in elite journals is indeed one of the factors that fuels predatory publishing. These findings may also be attributed to lack of adequate knowledge on research literacy skills especially among upcoming academics. Relative to this, the findings have equally shown that 67.4% of the

respondents hold the view that young and inexperienced researchers are indeed more likely to publish in predatory journals than the experienced academics.

The prestige theory as well as the principal agent theory are founded on promoting quality research outputs and therefore the findings regarding rejection rates in elite journals is a challenge that needs to be addressed by university authorities. Kwik (2021) emphasised that universities compete for prestige and visibility across the globe through scientific publications and scholarship and that such publications have an influence on ranking, visibility and prestige of universities. The Prestige Maximisation theory, an underlying theoretical framework for this study, advocates for quality research outputs that can spur prestige for universities. There is a mismatch between the spirit of this theory and the findings on rejection rates. It is therefore important for universities to have pragmatic training programmes on research literacy skills, particularly on how to navigate a rigorous peer-review terrain as demanded by reputable publishers.

5.3.3 The pressure to publish to meet promotion conditions

The findings have confirmed that 83.9% of the academics are under constant pressure to publish in order to satisfy promotion conditions. These findings are in tandem with other similar studies that were conducted on predatory publishing. Particularly, Yeo et al. (2021, p.1) found out that the long stand culture in academic circles, popularly known as “publish or perish” exerts pressure on academics, and therefore creates a conducive environment for predatory publishing to flourish. These sentiments were also echoed by Gasparyan et al. (2016) who pointed out that promotion to senior academic ranks is largely informed by the number of publications one has as opposed to journal ranking where one publishes. In this study, some academics have proposed that MUBAS should devise a special mechanism for recognising academics who publish their works in prestigious journals as a way of entrenching best spirit of publishing in credible journals. Although this is a commendable suggestion, other respondents said that the work of academics also involves teaching and other outreach programmes and/or community engagement (CE), and therefore basing promotion largely on research publications may be inappropriate.

5.4 What are the effects of predatory publishing on the scholarly communication process?

The data findings have established that predatory publishing affects ranking of universities, reputation of researchers, and research budgets. These effects have also been observed by many studies under

the literature review in chapter two. This section provides a discussion on how these effects are linked to the theoretical frameworks, namely the Prestige Maximisation Theory and the Principal Agent Theory (Refer to Chap.2)

According to Zhao and Qiao (2017) quality research outputs are the corner-stones for building and harnessing credibility and ranking of universities on the global space. Moreover, García et al. (2012, p.1081) attest that credible research outputs have a formidable influence on ranking of universities. Likewise, the Prestige Maximisation theory contends that universities, across the globe compete for prestige through publications in elite journals. The understanding is that prestigious and highly ranked universities will also attract donors and other working partnerships as well as genius students. To this end, the MUBAS vision, among other areas aspires to advance its research outputs. While there are efforts to realise this vision and improve on ranking, the effects of predatory publishing may serve as a stumbling block. This study is therefore a step in the right direction in terms of realising this vision. More so, in-line with the Principal Agent theory, the Malawi Government has developed the Malawi Vision 2063; a plan for national development that aims to create wealth and become self-reliant by the year 2063. In line with this vision, universities through faculty members have been urged to conduct research, and come-up with deliverables that can promote industrialisation through science, technology and innovation (The National Planning Commission, 2020, p.20). Besides this, Government has also developed the National Education Sector Investment Plan 2020 - 2030 (NESP 2020 - 2030) and has highlighted that universities lack credible and relevant research programmes (Malawi Ministry of Education Science and Technology (MoEST), 2020, p. 24). Thus the Principal Agent theory demands that agents such as academics and their faculties should support government efforts through credible research outputs.

In summary, the foregoing has demonstrated that there is a converse relationship between the effects of predatory publishing and the foundational principles or the philosophical factors that underpin the Prestige Maximisation theory and the Principal Agent theory. Essentially, the effects of predatory publishing are antagonising the aspirations of the adopted theories.

5.5 What interventions should MUBAS put in place to curb predatory publishing?

This study was designed to model interventions that could help curb the practice of predatory publishing and promote best practices in the scholarly communication continuum. In this vein, the

following question was asked: *What can the Library department, Academic Committees and other research support units at MUBAS put in place to safeguard faculty members from publishing in predatory sources?* The data findings in chapter 4, established a number of interventions. These are summarised as follows:

- Library should compile and be updating a list of credible journals and index all predatory journals and update them regularly.
- The Library and all relevant Academic Committees should promote awareness on predatory publishing; that a subject of publishing and predatory publishing should be mainstreamed in Research Methodology modules, specifically targeting both undergraduate and postgraduate students.
- Putting in place legal mechanisms that can help to deter predatory publishing probably by designing fines or disciplinary measures against wrong doers.
- Develop policy guidelines as well as journal review teams made up of senior academics who can vet manuscripts before sending them to reviewers and publishers.

The summarised interventions are discussed in line with other related studies to determine their relevancy, validity and reliability.

5.5.1 Updating and making a list of credible journals available on the websites

The findings in chapter four demonstrated that most respondents indicated that updating and making a list of credible journals available to academics through a website was the best approach to dealing with the problem of predatory publishing. For example, some universities such as Yale, Cambridge and Toronto among others have adopted this approach by publishing a list of deceptive journals on their websites (The InterAcademy Partnership, 2021, p.56). Arguably, in the South African context, the DHET updates a list of journals where researchers can publish their articles. Nevertheless, even with such lists available, in South Africa alone about 4,246 articles were published in 48 journals which were classified as predatory (Mouton 20219, p.1). Furthermore, Simón (2016, p.2) analysed the complexities associated with predatory journals, and how they mimic legitimate ones, and concluded that predatory publishing is not only a complex problem but also real. These assertions were also echoed by Clark and Smith (2015, p.1) who indicated that curbing the problem of predatory publishing is problematic because it is increasingly a lucrative practice. In short, while the idea of maintaining a list of predatory

journals sounds feasible, it is not adequate and sufficient enough to deal with the problem of predatory publishing. Therefore, updating and making a list of credible journals available to academics should be adopted as a complementary strategy for addressing these problems.

5.5.2 Conducting awareness to expose the ills of predatory publishing

According to Linacre et al. (2019, p.217) predatory publishing is mainly fuelled by lack of training and understanding of the scholarly publishing processes. In this study, respondents emphasised that raising awareness about the characteristics of predatory journals were important steps to address the problem of predatory publishing. They highlighted that the Library and all relevant Academic Committees should regularly promote awareness of predatory publishing. Although the issue of training emerged as an important factor in addressing the problem of predatory publishing, these findings have revealed that MUBAS does not only have formalised training or awareness programmes but also research mentorship programmes on predatory publishing. Besides this, these findings have also showed that 68(71.6%) of the respondents had never attended any training on predatory publishing. These findings also demonstrated that the use of indexing systems which can determine scientific standing of most journals was at 50%. These statistics have exposed serious gaps that require attention. Essentially, predatory publishers usually dupe academics and researchers because their way of communication is attractive, and even experienced academics who have the right knowledge regarding publishing have often fallen victim to this practice (Linacre et al., 2019). Thus unless awareness and training programmes on predatory publishing and research literacy skills are properly regulated, formalised and mainstreamed, then the problem of predatory publishing will continue at MUBAS particularly amongst in-experienced academics and researchers.

5.5.3 Putting in place legal mechanisms and disciplinary measures

Some respondents recommended the adoption of legal mechanisms and disciplinary measures as critical tools to limit the problem of predatory publishing at MUBAS. Arguably, the issue of lawsuits surrounding predatory publishing is not strange, and the jurisprudence is equally increasing just like the number of cases that have been adjudicated (*Federal Trade Commission v. OMICS Group Inc.*, 2019; Buitrago-Cirio & Bowker, 2020, p.644; Linacre et al., 2019, P.219). It is not surprising then that some librarians as well as Beall himself had either been legally threatened or sued for categorising certain publications as predatory (New, 2013; Beall, 2017). In view of this, universities such as Yale, Toronto

and Berkeley had to rename the term predatory, and instead they adopted the terms “suspicious”, “undesirable” and/or “deceptive” respectively journals. This paradigm shift emerged partly because of lawsuits surrounding the term predatory publishing. Thus, for MUBAS to commence criminal proceedings or disciplinary measures against perpetrators, there is need for proper planning and re-strategising on this otherwise the move may trigger numerous lawsuits.

5.5.4 Develop policies and guidelines for identifying credible journals and publishers

The Inter-Academy Partnership (2021) reports that universities across the globe have developed a number of interventions such as policies and checklist as a response to the threats posed by predatory publishing practices. In this study, 93(98%) of the respondents were of the view that MUBAS should develop policy frameworks related to predatory publishing; while 86(90.5%) attested that MUBAS should establish a Research Ethics Centre as part of the efforts to promote quality research outputs. The foregoing findings collaborate very well with the findings from the interviews which established that there were institutional gaps related to policy and administrative structures that can advance quality research outputs at MUBAS. Although there were such gaps, it was also established that all research activities that require ethical clearance are referred to the NCST or to other universities that have REC such as Kamuzu University of Health Sciences (KUHeS). In summary, regulating research publications through a comprehensive policy framework and complemented by the establishment of relevant research-support structures would boost a culture of quality research outputs at MUBAS.

5.5.4.1 Guidelines for identifying credible Journals and Publishers

The literature review under chapter two has provided a list of guidelines which can be used to deter predatory publishing and identify credible journals. This section will provide a summary.

5.5.4.1.1 Indexing and Abstracting Services

There are a number of credible databases that index and rank journals. The most outstanding ones include Scopus, under Elsevier; Web of Science, a world-class journal citation database; Eigenfactor under the University of Washington, and CWTS under Leiden University among others. These can be introduced to academics through research orientation sessions as tools for checking credibility of journals.

5.5.4.1.2 Professional bodies and Open Access Publishers

The practice of predatory publishing is partly attributed to have escalated due to the open access model of scholarly publishing (Beall, 2017). In view of this, a number of professional bodies which safeguard and regulate scientific publications have emerged. Some of these include the Institute of Electrical and Electronics Engineers (IEEE); Committee on Publication Ethics (COPE); World Association of Medical Editors (WAME); Directorate of Open Access Journals (DOAJ); Open Access Scholarly Publishers Association (OASPA); International Committee of Medical Journal Editors (ICMJE) and others.

5.5.4.1.3 Use of author profiles and other strategies

The data findings have also shown that one of the interventions to limit predatory publishing is by instituting journal review teams of senior academics as well as co-authorship with other researchers within the organisation or with those that are geographically distributed. According to Haak et al. (2012), the use of Open Researcher and Contributor ID (ORCID) or Author ID can enhance co-authorship of researchers across the globe. The author ID uniquely identifies researchers, and therefore it can be used to check author-profiles and their affiliations. Thus, the author ID can be used to check journal quality by contacting other researchers.

On the other hand, the literature review has also shown other tools that can deter predatory publishing. These include the use of online tools such as the Think|check|Submit metrics as well as being cautious about the unethical conduct of certain publishers who do not follow standard publishing practices and editorial processes.

5.6. Linking the study findings to the theoretical frameworks

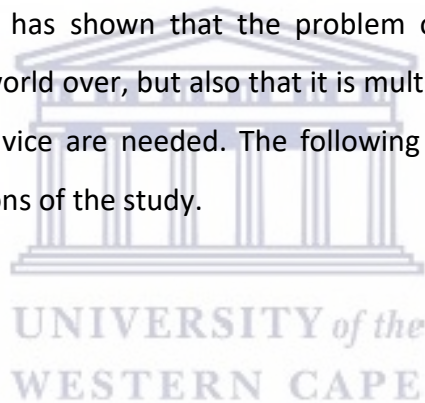
This study was underpinned by the Prestige Maximisation theory and the Principal Agent theory. These two frameworks were chosen because they complement each other in their philosophy. Briefly, the Prestige Maximisation theory was conceptualised on promoting competition and global visibility of universities through research publications in elite journals. The assumption generally held is that research publications are the major outputs that drive ranking, prestige and visibility for universities (Brewer et al. 2005). On the other hand, the Principal Agent theory assumes that universities are agents who discharge their duties in the interest and/or on behalf of their principals (government).

This section was intended to discuss if the study findings were congruent with the aspirations of the adopted theoretical frameworks. As regards to the prestige model, 96.8% of the respondents asserted that quality research outputs promote ranking of universities. Furthermore, 87.4% of the respondents confirmed that predatory journals erode the reputation of academics and their respective institutions. Although these findings agree with the aspiration of the prestige model, there were about 9.5% of the respondents who were uncertain about the value of good quality research output, and 5.3% of the respondents did not agree with the statement that predatory journals erode the reputation of academics and universities. In view of this, it is summarised that the data findings conform to the prestige model with some minor variations. Such variations point to knowledge gaps as regards to how academics perceive the value of research work.

In line with the Principal Agent theory, the Malawi Government recognises the value of research outputs through several policy frameworks. Firstly, the umbrella body that coordinates research work in Malawi is the Malawi National Commission for Science and Technology (NCST). The NCST is a public body mandated by law to regulate research. Secondly, the Government also developed and adopted the Malawi Vision 2023, and under pillar number 2 (industrialisation), research has been pinned as one of the enablers of industrialisation. Thirdly, Government has also shown commitment to research through the NESP 2020-2030. The NESP 2020 - 2030 has challenged the higher education sector to undertake relevant and credible research activities that can spur the standards of education in Malawi. Thus, there is a converse relationship between what government aspires to achieve through the cited policies and the practice of predatory publishing. These findings have also shown that the effects of predatory publishing undermine government efforts geared at improving research outputs and ranking of universities.

5.7 Chapter summary

This chapter has provided detailed interpretation and discussion of the research findings. The discussion and interpretation were rooted in the literature review and the adopted theoretical lens. The discussion has also shown that most academics have heard about the term predatory publishing but have limited knowledge about the tools, and other checklists that enlist predatory journals such as the Beall's list. The section chapter also discussed some controversies surrounding Beall's list, and that most of the academics felt that the promotions committee should not include it in the promotions criteria. Equally so, it has also been discussed that the problem of predatory publishing cuts across the globe, and that most universities are struggling with it. In addition to this, the chapter has also discussed factors that fuel predatory publishing such as high rejection rates in top-ranked journals as well as limited knowledge about the characteristics of predatory journals. The chapter has also made it clear about the effects of predatory publishing on the ranking of universities as well as research budgets. In short, this chapter has shown that the problem of predatory publishing is not only prevalent in many universities world over, but also that it is multifaceted, and therefore multifaceted interventions to deal with this vice are needed. The following chapter focusses on the summary, recommendations and conclusions of the study.



CHAPTER 6: SUMMARY, RECOMMENDATIONS AND CONCLUSION

6.1 Introduction

This chapter presents a summary of the study findings, conclusion and recommendations. The summary of the findings is anchored within this study's findings and the discussions as presented in chapters 4 and 5 respectively.

6.2 Summary and overview of the study

This study was conducted at the Malawi University of Business and Applied Sciences (MUBAS) in Malawi. The study was undertaken to provide a better understanding of predatory publishing amongst academics and researchers at MUBAS that could inform the design and development of evidence-based models of interventions. The underlying aim was to help address the negative impact of predatory publishing. The study was anchored in the post-positivist paradigm; a philosophical approach that combines positivist and interpretivist paradigms. A mixed method research design and specifically the Sequential Explanatory Design was adopted, wherein quantitative data was collected first, followed by qualitative data. A case study method was also used. A stratified random sampling technique was used which allowed the researcher to select participants based on faculty names. A total of ninety-five (95) academics and researchers were surveyed, and eight Associate professors were interviewed face-to-face using an in-depth interview guide. The quantitative data was analysed using SPSS as well as Microsoft Office Excel, while a thematic analysis approach was used for the qualitative data. The study was constructed on two theoretical frameworks namely, the Prestige Maximisation theory of Higher Education Institutions and the Elite Journals (Prestige Model) and the Principal Agent Theory (Refer to Chapter 2)

6.3 Summary of the findings

This summary of the findings is based on the research questions and objectives as outlined in the following sections.

6.3.1 Findings on awareness of predatory publishing

The data findings as presented and discussed in chapters 4 and 5, established that 86.3% of the respondents were aware about the term "predatory publishing". However, there was limited awareness about the tools, and other initiatives that can expose predatory journals. For example,

55.8% of the respondents indicated that they were aware about Beall's list. The findings from the interviews established also that most academics came to know about Beall's list during the promotion assessment committees. Beyond this, these findings also established that some academics had reservations regarding the inclusion of Beall's list in the promotion criteria. Moreover, 36.8% academics reported that they had inadequate knowledge about predatory publishing. Most importantly, about 19% of the academics including associate professors admitted that they had at some point published in a predatory journal. Thus confirming the existence and extent of this problem. Therefore, if this problem is not addressed systematically, it will continue escalating while leaving behind its negative consequences.

6.3.2 Findings on factors that drive faculty members to publish in predatory sources

These findings established that 71.6% of the academics had never attended any training on predatory publishing. The findings also established that predatory journals exhibit a number of characteristics such as false claims about peer review process; bogus impact factors; manuscripts solicitation through emails; unstructured author fees, and inclusion of reviewers and editors with fake academic credentials as well as those of popular academics but without their knowledge. It thus emerged that lack of adequate knowledge about these characteristics poses serious threats among academics. These findings have also established that high rejection-rates of manuscripts in first-rate scientific standing journals is another factor that drive faculty members to publish in predatory journals. Again, the "publish or perish" assumptions exert pressure on academics, and therefore creates a conducive environment for predatory publishing to flourish. The findings also highlighted that 83.9% of the respondents were under constant pressure to publish in order to meet promotion criteria. These findings have further exposed serious knowledge gaps that exist amongst academics relating to scholarly communication processes, and procedures such as rigorous peer review processes, journal biometrics as well as journal's scope among others.

6.3.3 Findings on academics' perceptions about the effects of predatory publishing

African universities generally face a number of challenges in attracting funding for research and other operations. Research budgets for most universities are generally very low or non-existent (Chiwere, 2020) and therefore, predatory publishing is a serious threat to the limited research budgets. In the same vein, 67.4% of the academics admitted that publishing in predatory journals was a waste of

research funds. Additionally, universities also struggle to improve on their rankings and visibility on the international arena, and one of the findings revealed that universities associated with predatory publishing can hardly attract international partners or students, hence compromising their visibility. In the Prestige Maximisation theory (Kwiek, 2021, p.498) and the Agent (Kivisto, 2008) it has been clearly demonstrated that predatory publishing does affect university rankings and reputation as well as faculty members' standings. Above all, predatory publishing has been proved to have caused a lot of harm to scientific knowledge. For example, in the field of medicine, it has been established that predatory publishing puts at stake lives of people since such knowledge may likely be used in one way or another. Thus, it is an unethical practice which MUBAS should strive to address. While there were efforts such as an unstructured and uncoordinated training and awareness programmes at MUBAS, such efforts were not adequate to deal with this vice.

6.3.4 Findings on interventions that can address the practice of predatory publishing

Respondents were asked to state interventions that can be implemented to curb the problem of predatory publishing at MUBAS. The data findings in chapter 4 and 5 have provided several interventions as follows: -

- Due to the absence of a policy on research outputs as well as non-existence of a Research Ethics Committee, 90.5% of the respondents highlighted that MUBAS should develop and adopt relevant policy guidelines as well as constitute necessary committees and systems. It was stated that regulating research outputs through such policies and complemented by the establishment of appropriate research-support centers, would reinforce a culture of quality research outputs at MUBAS.
- The data findings also established that there was one office that manages postgraduate studies and research work, which is designated as the Executive Dean for Postgraduate studies and Research. Beyond this, there were no subordinate research support centers to coordinate and entrench a culture of research literacy. Considering these gaps, some academics proposed the establishment of journal review teams made up of senior academics as well as research support units which should vet manuscripts before sending them to reviewers and publishers.
- Lack of knowledge about the parameters that are used to identify predatory journals is another challenge that most academics highlighted. And, in view of this, most of the respondents emphasised that the MUBAS Library, in collaboration with other relevant stakeholders, should

be updating a list of credible journals on the university website regularly. More so, MUBAS should put in place a system of screening predatory journals where members can easily access. Academics further stated that such efforts should be complemented by frequent trainings and awareness on predatory publishing.

- Some respondents proposed the adoption of legal mechanisms and disciplinary measures against academics who publish in predatory sources. Although this sounds good, it has potential to trigger massive lawsuits as evidenced by several studies (Buitrago-Cirio & Bowker, 2020, p.644; Linacre et al., 2019, P.219).
- The general impression is that most academics have inadequate knowledge about the use of databases that index and rank journals such as Scopus and Scimago Journal and Country Rank, and SciELO among others. Similarly, there are also knowledge gaps related to bodies that regulate and update Open Access scholarly journals such as OASPA and DOAJ including the use of author profiles such as Open Researcher and Contributor ID. Equipping academics with this kind of knowledge has been highlighted as one of the critical strategies for limiting predatory publishing.

6.3.5 Implications of the study findings on the adopted theoretical frameworks

The study findings have extensively exposed the effects of predatory publishing on the ranking of universities, as well as the reputation of academics and their institutions. Above all, the study findings have also comprehensively addressed the extent of damage caused by predatory publishing on scientific knowledge production as well as the erosion of limited resources. In addition, the study findings and discussion under chapters 4 and 5 (see par.5.6) have also exposed the implications of predatory publishing on Government policies on development agendas as well as the education system itself as envisaged in the Malawi Vision 2063 and the NESP 2020-2030. Thus, the findings of this study are in-line with the theoretical frameworks as they have highlighted the effects of predatory publishing and proposed interventions that can be implemented to address the problem.

6.4 Recommendations

The aim of the study was to gauge a better understanding of predatory publishing insights amongst academics and researchers that can lead to the design and development of better models of interventions to help address the negative impact of predatory publishing at MUBAS. In light of these

findings, this study highlights a number of recommendations that seek to equip academics and researchers with relevant knowledge and skills for limiting the practice of predatory publishing at MUBAS in Malawi. The recommendations provided in the forthcoming section are based on the study objectives.

6.4.1 Recommendations on awareness of predatory publishing

The study findings have established that awareness of predatory publishing amongst academics and researchers is generally good; although awareness about tools and systems that expose predatory journals is limited. This gap is mainly directly related to the complex and tricky behaviour of predatory publishing. The study findings and discussion in chapter 5 (see section 5.5.1) have shown that predatory publishing is a profitable and dynamic business and therefore, it requires robust awareness structures. These findings have also shown that young and upcoming academics are more likely to publish in predatory sources.

It is therefore recommended that the Library Department at MUBAS in conjunction with the Directorate of postgraduate and Research studies should intensify awareness activities on tools and systems that can expose predatory journals such as those by Cabells, Beall's list among others. The Library Department is also required to utilise the Global Open Access Week to raise awareness on predatory publishing. Further, MUBAS should also incorporate issues of predatory publishing during research dissemination conferences, workshops, and seminars. It is also recommended that the process of raising awareness and exposing the risks associated with predatory publishing should be mainstreamed to the entire academic community, targeting all students and academics. Furthermore, it is also recommended that these interventions should be supported by relevant policy guidelines and be slotted in each academic calendar.

6.4.2 Recommendations on factors that influence academics to publish in predatory journals

The study findings have shown that predatory publishing is mainly influenced by three major factors such as lack of adequate knowledge about the characteristics of predatory journals; the anxiety to satisfy promotion conditions, and high rejection-rates in good scientific standing journals. The study findings have also shown that research outputs are at the heart of academic recognition and promotions. Although data has shown that the prevalence of predatory publishing is higher amongst upcoming scholars, it has also been confirmed that even well experienced scholars have been duped.

The foregoing gaps expose lack of adequate knowledge on research literacy skills amongst academics and researchers at MUBAS. It is therefore recommended that the Directorate of postgraduate studies and Research should be tasked to spearhead the development of clear strategies that could promote research-literacy skills and knowledge amongst academics and students. It is also recommended that regular and robust training sessions on peer review processes, and scientific publishing should form part of the Continuous Professional Development (CPD) for academics and researchers at MUBAS.

Moreover, MUBAS lacks a clear policy to govern Research Integrity. It is therefore recommended that a relevant Policy on research integrity should be developed and be adopted. The proposed policy should regulate, promote, and enhance research-literacy and mentoring programmes at MUBAS. The benefits of equipping academics with research literacy skills are numerous. For example, it would improve their knowledge and skills on how to identify predatory journals and conferences, as well as understand the characteristics of credible scientific publishing processes such as peer reviews, and understand the effects of predatory publishing. It is also recommended that upcoming scholars should be encouraged to co-author papers with senior academics and researchers who have mastered the research processes.

6.4.3 Recommendations on the effects of predatory publishing on the scholarly landscape

The study showed that predatory publishing dents the reputation of universities and faculty members hence affecting the ranking and visibility of universities on the international scene. The findings have also shown that predatory journals affect limited research budgets. Similarly, the adopted theoretical frameworks have also vindicated the negative effects of predatory publishing. Moreover, MUBA'S mission statement among others seeks to advance research, and this mission cannot be achieved unless issues of research integrity and predatory publishing are addressed.

It is therefore recommended that MUBAS should develop and promote institutional frameworks and practices that can accelerate research integrity as well as expose the effects of predatory publishing. As outlined in section 6.4.2, developing a robust regulatory framework on research outputs would potentially address the problem of predatory publishing, and thus addressing the effects of predatory publishing. Above all, institutionalising research mentoring and supervisory programmes can promote academics' skills and competencies to distinguish between predatory publishing and credible publishing standards. In view of the adverse effects of predatory publishing, it is also recommended

that academics and researchers who perpetually publish in predatory sources should be disciplined through warning, demotion, and reduction in wages or termination of contract.

6.4.4 Recommendations on interventions that limit predatory publishing

These findings have proposed a number of interventions that can be designed and implemented in order to limit the practice of predatory publishing including predatory conferences. This section has summarised recommendations that can be implemented to limit the practice of predatory publishing as follows: -

- a) As outlined under sections 6.4.2 and 6.4.3, MUBAS should develop a policy- framework to govern research publications and promote research integrity as well as prohibit predatory publishing including predatory conferences.
- b) As outlined in chapter 5 (refer to section 5.5.4), all studies that require ethical clearance at MUBAS, are referred to the NCST or KUHeS. This is a critical gap that limits MUBAS to adequately foster a culture of research integrity amongst academics, researchers and students. It is therefore recommended that a Research Ethics Office and committee should be established right at MUBAS and develop Standard Operating Procedures (SOPs) such as setting up Journal Review teams among other functions.
- c) The study findings have also established that predatory publishing was partly attributed to limited knowledge regarding the characteristics of predatory journals. To address this gap, the Library Department in collaboration with relevant research support centers should develop web-based Research Guides. These should be updated regularly in line with research trends. The Research Guides should encompass predatory journals and Conferences, Research Integrity, Open Access and a list of credible publishers. These should be complemented by training workshops that can enable participants to distinguish predatory journals from credible journals.
- d) Furthermore, participants should also be enlightened on how to use resources that help identify credible journals and publishers such as abstracting and indexing services (Scopus, Eigenfactor, Master journal list) as well as professional publishing bodies such as COPE, OASPA, and others.

- e) High rejection-rates in elite journals were also cited as another problem that fuels predatory publishing. This gap illustrates lack of adequate knowledge about research literacy skills amongst academics. Therefore, research support centers in collaboration with the library department should equip academics and researchers with knowledge and skills on peer-review processes, systematic reviews and journal biometrics, Impact factors as well as y credible journal identification.
- f) Although the study findings have not really linked predatory publishing and Open Access, the literature review section has somehow postulated that there is a link and therefore, it is recommended that the Library Department should take steps and engage academics on how to clear the mist between these two concepts.
- g) The Library Department should also equip all faculty members and researchers at MUBAS to have unique research-profiles using online portals such as the ORCID. This would assist academics to uniquely link their research outputs with their names as well as network with other researchers across the globe.
- h) In light of the consternations surrounding Beall's list (refer to section 5.2.1) and the lawsuits surrounding predatory publishers and journals (refer to section 5.5.3), it is recommended that MUBAS should reconsider rephrasing the term Beall's list and predatory journals in its promotion processes. This recommendation is in-line with the trends that other top-notch universities such as Yale, Cambridge and Toronto have adopted.
- i) Considering the adverse effects of predatory publishing on the university's reputation and research-budgets, it is also necessary to effect disciplinary measures on academics and researchers who perpetually publish in predatory sources. Such disciplinary measures may include written warning, demotion, wage reduction and/or termination of contract.
- j) Since these findings have placed the Library Department as a pivotal stakeholder in limiting the practice of predatory publishing, it is recommended that the library should empower staff members in this area. It is also recommended that the library functions should be reviewed to adequately respond to the recommendations made herein. This recommendation is line with other similar studies such as those in Canada, the United States of America and South Africa. In these countries, they employed and/or designated Scholarly Communications Specialists who respond to the wave of predatory publishing in an era of Open Access.

- k) It is also recommended that all faculties and departments at MUBAS should include issues of predatory publishing and conferences during their research dissemination conferences.

6.5 Contributions of the study

This study was conducted to provide a better understanding of predatory publishing practices amongst academics and researchers at MUBAS in Malawi, and in turn these could help model appropriate interventions to limit predatory publishing. The empirical study findings have made some major contributions. Firstly, the study was unique as there were no previous studies conducted in Malawi in this area, and at MUBAS in particular. Therefore, the study has contributed new knowledge towards quality assurance standards and scholarly communications in higher education. The study has also identified knowledge gaps amongst academics and researchers relating to tools, systems and professional bodies that regulate publishing so as to promote quality scientific outputs.

Equally, the study has recommended policy formulation as a critical tool for combatting predatory publishing. The adoption of that policy should create synergies between faculty members, research support centers and the library departments. The collaboration of different stakeholders is critical in addressing the effects of predatory publishing on the scholarly communication process.

Additionally, the study has also highlighted the need to reshape the working practice of librarians in order to comprehensively respond to the threats posed by predatory publishers on the scientific landscape at MUBAS. The scholarly landscape is very dynamic and therefore libraries are constantly challenged to reshape their practice to remain relevant.

Finally, the adoption of the two theoretical frameworks, the Prestige Maximisation theory and the Principal Agent theory has provided a very solid grounding for the interpretation and discussion of the research results. The two theories together provided the basis for linking the study findings to the aspirations of the Malawi Government as expounded in the Malawi Vision 2063 and the NESP 2020-2023. This approach equally and immensely contributed towards the inclusion of these theories in Library and Information Science (LIS) studies as an academic field.

In summary, this study has made contributions in four major areas namely: new knowledge that promote quality research outputs; policy formulation to alter the behaviour of predatory publishing;

practice of academic librarians to adequately respond to the threats of predatory journals, and broadening the theoretical application in LIS studies.

6.6 Areas for further research

This study was designed as a case study for MUBAS and therefore its findings cannot be generalised to other academic institutions in Malawi and elsewhere. Besides this, the study population included academics and researchers while librarians were excluded. Therefore, the following are proposed areas for further research:

- There is need to upscale the current study to other academic libraries in Malawi and include academic librarians as study participants.
- Secondly, there is need to conduct another empirical study to analyse the prevalence of predatory citations and references in postgraduate theses and dissertations through a content analysis design.
- Similarly, the findings of the study have inconclusively established the link between predatory publishing and Open Access Models of scholarly publishing. Therefore, there is need to comprehensively assess knowledge of open access amongst academics and librarians.
- Lastly, these findings have also highlighted quality assurance issues bordering on scholarly publishing and communication. Therefore, there is need to conduct another study to understand the role of academic libraries in promoting quality assurance systems and standards in higher education institutions.

6.7 Conclusion

This section concludes the entire study. The study was constructed to investigate knowledge of predatory publishing amongst academics and researchers at MUBAS. The underlying research question was designed to unearth respondents' knowledge about predatory publishing so that it could help inform the design of better models of interventions that can control predatory publishing at MUBAS.

The study has thus exposed several damages that predatory publishing causes on the reputation of universities and researchers. For instance, the society may not take universities and faculty members seriously if this vice is left unchecked. In other words, universities and researchers associated with predatory publishing are seen to have low academic ability and are perceived with low esteem.

Beyond this, other top-notch universities and researchers may not be willing to collaborate with researchers who have poor scientific standing. Predatory publishing also shrinks the limited funding for research.

The findings have further confirmed that the practice of predatory publishing is prevalent at MUBAS, and that 19% of the academics including researchers, confirmed to have fallen prey. Factors that promote predatory publishing included lack of adequate knowledge on predatory journals and conferences; the urge for academics to quickly satisfy promotion conditions, and inadequate knowledge about research-literacy. The study findings have also established that predatory publishing is a complex and lucrative business, and therefore challenging to address. In this case it requires multifaceted approaches as well as collaborations amongst academic departments, research support centers and the library department. In addition, the study has also established that the open access era and digital transformation trends are strongly linked to predatory publishing.

This study has made a number of recommendations on how to limit predatory publishing at MUBAS. In summary, interventions that have been recommended include raising awareness of predatory publishing, developing policy guidelines, and training academics on research literacy skills. The study has also included recommendations on areas that require further investigation.

Finally, it is expected that the recommendations and discussions highlighted in this study will ignite further debates about MUBAS's plans and responses to the threats posed by predatory journals and conferences. Ultimately, this will promote the growth of quality research outputs as well as international visibility and ranking of MUBAS on the international scene.

References

- Abramo, G., & D'Angelo, C. A. (2016). Refrain from adopting the combination of citation and journal metrics to grade publications, as used in the Italian national research assessment exercise (VQR 2011–2014). *Scientometrics*, *109*(3), 2053–2065. <https://doi.org/10.1007/s11192-016-2153-5>
- Alrawadieh, Z. (2020). Publishing in predatory tourism and hospitality journals: Mapping the academic market and identifying response strategies. *Tourism and Hospitality Research*, *20*(1), 72–81. <https://doi.org/10.1177/1467358418800121>
- Atiso, K., Kammer, J., & Bossaller, J. (2019). Predatory publishing and the Ghana experience: A call to action for information professionals. *IFLA Journal*, *45*(4), 277–288. <https://doi.org/10.1177/0340035219868816>
- Ayris, P., & Ignat, T. (2018). Defining the role of libraries in the Open Science landscape: a reflection on current European practice. *Open Information Science*, *2*(1), 1–22. <https://doi.org/10.1515/opis-2018-0001>
- Balehegn, M. (2017). Increased Publication in Predatory Journals by Developing Countries' Institutions: What It Entails? And What Can Be Done? *International Information and Library Review*, *49*(2), 97–100. <https://doi.org/10.1080/10572317.2016.1278188>
- Baruch Yehuda. (1999). Response rate for academic studies. *Human Relations*, *52*(421–438).
- Beall, J. (2017). What I learned from predatory publishers Research integrity corner: Special issue on predatory journals Opinion. *Biochemia Medica*, *27*(2), 273–281. <https://doi.org/10.11613/BM.2017.029>
- Benos, D. J., Bashari, E., Chaves, J. M., Gaggar, A., Kapoor, N., LaFrance, M., Mans, R., Mayhew, D., McGowan, S., Polter, A., Qadri, Y., Sarfare, S., Schultz, K., Splittgerber, R., Stephenson, J., Tower, C., Walton, R. G., & Zotov, A. (2007). The ups and downs of peer review. *American Journal of Physiology - Advances in Physiology Education*, *31*(2), 145–152. <https://doi.org/10.1152/advan.00104.2006>
- Berger, M. (2016). Everything you wanted to know about Predatory Publishing but were afraid to ask. *College and Research Libraries News*, *77*(1). <https://doi.org/10.5860/crln.77.1.9428>
- Beshyah, S., Hajjaji, I., & Elbarsha, A. (2018). Awareness of predatory journals among physicians from Africa and the middle East: An exploratory survey. *Ibnosina Journal of Medicine and Biomedical Sciences*, *10*(4), 136. https://doi.org/10.4103/ijmbs.ijmbs_45_18

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Bryman, A. (2016). Social Research Methodology. In *Social Research Methodology* (5th ed.). Oxford University Press. <https://doi.org/10.1007/978-0-230-22911-2>
- Buitrago-Cirio, J., & Bowker, L. (2020). Investigating academic library responses to predatory publishing in the United States, Canada and Spanish-speaking Latin America. *Aslib Journal of Information Management*, 72(4), 625–652. <https://doi.org/10.1108/AJIM-03-2020-0089>
- CARL Data Management Sub-Committee. (2009). *Research Data : Unseen Opportunities*. 1–16. http://www.carl-abrc.ca/uploads/pdfs/data_mgt_toolkit.pdf
- Carminati, L. (2018). Generalizability in Qualitative Research: A Tale of Two Traditions. *Qualitative Health Research*, 28(13), 2094–2101. <https://doi.org/10.1177/1049732318788379>
- Chiwere, E. R. T. (2020). Open research data in African academic and research libraries: a literature analysis. *Library Management*, 41(6–7), 383–399. <https://doi.org/10.1108/LM-02-2020-0027>
- Clark, J., & Smith, R. (2015). Firm action needed on predatory journals. *BMJ (Online)*, 350(January 2015). <https://doi.org/10.1136/bmj.h210>
- Cobey, K. D., Grudniewicz, A., Lalu, M. M., Rice, D. B., Raffoul, H., & Moher, D. (2019). Knowledge and motivations of researchers publishing in presumed predatory journals: A survey. *BMJ Open*, 9(3), 1–9. <https://doi.org/10.1136/bmjopen-2018-026516>
- Federal Trade Commission v. OMICS Group Inc. (2019). *Brief of the Federal Trade Commission*, 19-15738 - October 11, 2019. https://www.ftc.gov/system/files/documents/cases/omics_ca9_ftc_answering_brief_10-11-19.pdf
- Creswell. (2012). *Educational Research: Planning, conducting and evaluating quantitative and qualitative research (4th ed.)*. Pearson Education.
- Creswell, J. W. (2018). *Qualitative Inquiry & Research Design (3rd ed.)* Sage.
- Crowe, et al. (2011). The case study approach. *BMC Medical Research Methodology*, 11(100), 2-9. <http://www.biomedcentral.com/1471-2288/11/100>
- Demir, S. B. (2018). Predatory journals : Who publishes in them and why ? *Journal of Informetrics*, 12(4), 1296–1311. <https://doi.org/10.1016/j.joi.2018.10.008>
- Demir, S. B. (2020). Scholarly databases under scrutiny. *Journal of Librarianship and Information Science*, 52(1), 150–160. <https://doi.org/10.1177/0961000618784159>

- Frandsen, T. F. (2017). Are predatory journals undermining the credibility of science ? A bibliometric analysis of citers. *Scientometrics*, 113(3), 1535–1550. <https://doi.org/10.1007/s11192-017-2520-x>
- Franklin, D. (2021). 'From the editor's desk': journal metrics for 2020. *Australian Journal of Forensic Sciences*, 53(5), 495–496. <https://doi.org/10.1080/00450618.2021.1968120>
- Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *Qualitative Report*, 20(9), 1408–1416. <https://doi.org/10.46743/2160-3715/2015.2281>
- García, J. A., Rodríguez-Sánchez, R., Fdez-Valdivia, J., Torres-Salinas, D., & Herrera, F. (2012). Ranking of research output of universities on the basis of the multidimensional prestige of influential fields: Spanish universities as a case of study. *Scientometrics*, 93(3), 1081–1099. <https://doi.org/10.1007/s11192-012-0740-7>
- Gasparyan, A. Y., Nurmashev, B., Voronov, A. A., Gerasimov, A. N., Koroleva, A. M., & Kitas, G. D. (2016). The pressure to publish more and the scope of predatory publishing activities. *Journal of Korean Medical Science*, 31(12), 1874–1878. <https://doi.org/10.3346/jkms.2016.31.12.1874>
- Glushko, B., & Shoyama, R. (2015). Unpacking Open Access: A Theoretical Framework for Understanding Open Access Initiatives. *Felicitier*, 61, 8–13. <http://www.community.cla.ca/2015/04/unpacking-open-access-a-theoretical-framework-for-understanding-open-access-initiatives/>
- Haak, L. L., Fenner, M., Paglione, L., Pentz, E., & Ratner, H. (2012). ORCID: A system to uniquely identify researchers. *Learned Publishing*, 25(4), 259–264. <https://doi.org/10.1087/20120404>
- Hilton, C. E. (2017). The importance of pretesting questionnaires: a field research example of cognitive pretesting the Exercise referral Quality of Life Scale (ER-QLS). *International Journal of Social Research Methodology*, 20(1), 21–34. <https://doi.org/10.1080/13645579.2015.1091640>
- Iglesias, K. W. (2014). *The Price of Prestige : A Study of the Impact of Striving Behavior on the Expenditure Patterns of American Colleges and Universities*.
- Imenda, S. (2014). *Is There a Conceptual Difference between Theoretical and Conceptual Frameworks ?* 38(2), 185–195.
- International Monetary Fund (2018). *World Economic Outlook: Cyclical Upswing, Structural Change*. <https://www.imf.org/en/Publications/WEO/Issues/2018/03/20/world-economic-outlook-april-2018>

- Khosrowjerdi, M., & Alidousti, S. (2010). Scientific information transfer: A conceptual model for scientific communication in IranDoc. *Electronic Library*, 28(6), 818–828.
<https://doi.org/10.1108/02640471011093516>
- Kimotho, S. G. (2019). The storm around Beall’s List: a review of issues raised by Beall’s critics over his criteria of identifying predatory journals and publishers. *African Research Review*, 13(2), 1.
<https://doi.org/10.4314/afrrrev.v13i2.1>
- Kivisto, J. (2008). An assessment of agency theory as a framework for the government-university relationship. *Journal of Higher Education Policy and Management*, 30(4), 339–350.
<https://doi.org/10.1080/13600800802383018>
- Kurt, S. (2018). Why do authors publish in predatory journals? *Learned Publishing*, 31(2), 141–147.
<https://doi.org/10.1002/leap.1150>
- Kwiek, M. (2021). *The prestige economy of higher education journals : a quantitative approach*. 493–519.
- Linacre, S., Bisaccio, M., & Earle, L. (2019). Publishing in an Environment of Predation: The Many Things You Really Wanted to Know, but Did Not Know How to Ask. *Journal of Business-to-Business Marketing*, 26(2), 217–228. <https://doi.org/10.1080/1051712X.2019.1603423>
- Liu, X. (2013). Who Publishes in “Predatory” Journals. *Journal of the American Society for Information Science and Technology*, 64(July), 1852–1863. <https://doi.org/10.1002/asi>
- Lopez, E., & Gaspard, C. S. (2020). Predatory Publishing and the Academic Librarian: Developing Tools to Make Decisions. *Medical Reference Services Quarterly*, 39(1), 1–14.
<https://doi.org/10.1080/02763869.2020.1693205>
- Macháček, V., & Srholec, M. (2021a). Predatory publishing in Scopus: evidence on cross-country differences. *Scientometrics*, 126(3), 1897–1921. <https://doi.org/10.1007/s11192-020-03852-4>
- Macháček, V., & Srholec, M. (2021b). Predatory publishing in Scopus: evidence on cross-country differences. *Scientometrics*, 126(3), 1897–1921. <https://doi.org/10.1007/s11192-020-03852-4>
- Mannheimer, S., Young, S. W. H., & Rossmann, D. (2016). On the ethics of social network research in libraries. *Journal of Information, Communication and Ethics in Society*, 14(2), 139–151.
<https://doi.org/10.1108/JICES-05-2015-0013>
- Maurer, E., Walter, N., Histing, T., Anastasopoulou, L., Khassawna, T. El, Wenzel, L., Alt, V., & Rupp, M. (2021). *Awareness of predatory journals and open access publishing among orthopaedic and trauma surgeons – results from an online survey in Germany*. 7, 1–8.

- Maurer, E., Walter, N., Histing, T., Anastasopoulou, L., Khassawna, T. El, Wenzel, L., Alt, V., Rupp, M., Nwagwu, W. E., McLeod, A., Savage, A., Simkin, M. G., Buitrago-Ciro, J., Bowker, L., Cobey, K. D., Grudniewicz, A., Lalu, M. M., Rice, D. B., Raffoul, H., ... Ward, S. M. (2020). Penetrating the Omerta of Predatory Publishing: The Romanian Connection. *Sci Eng Ethics*, 14(1), 183–202. <https://doi.org/10.1177/1467358418800121>
- McLeod, A., Savage, A., & Simkin, M. G. (2018). The Ethics of Predatory Journals. *Journal of Business Ethics*, 153(1), 121–131. <https://doi.org/10.1007/s10551-016-3419-9>
- Melguizo, T., & Strober, M. H. (2007). Faculty salaries and the maximization of prestige. *Research in Higher Education*, 48(6), 633–668. <https://doi.org/10.1007/s11162-006-9045-0>
- Mills, D., & Inouye, K. (2021). Problematizing ‘predatory publishing’: A systematic review of factors shaping publishing motives, decisions, and experiences. *Learned Publishing*, 34(2), 89–104. <https://doi.org/10.1002/leap.1325>
- Ministry of Education. (2020). *National Education Sector Investment Plan 2020 -2030*. [https://www.unicef.org/malawi/media/4561/file/National education sector investment plan .pdf](https://www.unicef.org/malawi/media/4561/file/National%20education%20sector%20investment%20plan.pdf)
- Morales, E., McKiernan, E. C., Niles, M. T., Schimanski, L., & Alperin, J. P. (2021). How faculty define quality, prestige, and impact of academic journals. *PLoS ONE*, 16(10 October), 1–13. <https://doi.org/10.1371/journal.pone.0257340>
- Mouton, J. (2017). The extent of South African authored articles in predatory journals. *South African Journal of Science*, 113(7), 1–9.
- Murphy, J. A. (2019). Predatory Publishing and the Response from the Scholarly Community. *Serials Review*, 45(1–2), 73–78. <https://doi.org/10.1080/00987913.2019.1624910>
- National Planning Commission. (2020). *Malawi’s Vision : An Inclusively Wealthy and Self-reliant Nation*. [https://malawi.un.org/sites/default/files/2021-01/MW2063- Malawi Vision 2063 Document.pdf](https://malawi.un.org/sites/default/files/2021-01/MW2063-Malawi%20Vision%202063%20Document.pdf)
- New, J. (2013, February 8). Wired Campus_ Edwin Mellen Press Sues University Librarian for Libel. *The Chronicle of Higher Education*.
- Ngulube, P. (2020). *Handbook of research on connecting research methods for information science research* (Vol. 1). <https://doi.org/10.4018/978-1-7998-1471-9>

- Nwagwu, Williams E. (2013). Open Access Initiatives in Africa - Structure, Incentives and Disincentives. *Journal of Academic Librarianship*, 39(1), 3–10.
<https://doi.org/10.1016/j.acalib.2012.11.024>
- Nwagwu, Williams Ezinwa. (2015). Counterpoints about predatory open access and knowledge publishing in Africa. *Learned Publishing*, 28(2), 114–122. <https://doi.org/10.1087/20150205>
- Owolabi, K. A., Adeleke, O. A., Ajayi, T. B., & Adesina, O. A. (2020). Awareness and Knowledge of Predatory Journals among Academic Librarians in Nigerian Universities. *Serials Librarian*, 79(1–2), 82–90. <https://doi.org/10.1080/0361526X.2020.1830225>
- Rogelberg, S. G., & Stanton, J. M. (2007a). Understanding and dealing With Organizational Survey Nonresponse. *Organizational Research Methods*, 10(2), 195–209.
- Rogelberg, S. G., & Stanton, J. M. (2007b). With Organizational Survey Nonresponse. *Organizational Research Methods*, 10(2), 195–209.
- Saltz, J. S., & Dewar, N. (2019). Data science ethical considerations: a systematic literature review and proposed project framework. *Ethics and Information Technology*, 21(3), 197–208.
<https://doi.org/10.1007/s10676-019-09502-5>
- Santovec, M. Lou. (2014). Change the Attitude to Aid Women’s Representation in STEM. *Women in Higher Education*, 23(7), 8–9. <https://doi.org/10.1002/whe.20084>
- Schoonenboom, J., & Johnson, R. B. (2017). How to Construct a Mixed Methods Research Design. *Kolner Zeitschrift Fur Soziologie Und Sozialpsychologie*, 69, 107–131.
<https://doi.org/10.1007/s11577-017-0454-1>
- Sekaran, U. (2003). Research and Markets: Research Methods for Business - A Skill Building Approach. In *John Wiley & Sons*. <https://doi.org/http://dx.doi.org/10.1108/17506200710779521>
- Shen, C., & Björk, B. C. (2015). “Predatory” open access: A longitudinal study of article volumes and market characteristics. *BMC Medicine*, 13(1), 1–15. <https://doi.org/10.1186/s12916-015-0469-2>
- Shibayama, S., & Baba, Y. (2015). Impact-oriented science policies and scientific publication practices: The case of life sciences in Japan. *Research Policy*, 44(4), 936–950.
<https://doi.org/10.1016/j.respol.2015.01.012>
- Simón, A. (2016). Pitfalls of Predatory Journals. *Comprehensive Psychology*, 5, 1–5.
<https://doi.org/10.1177/2165222816631691>
- Spector, P. E. (2019). Do Not Cross Me: Optimizing the Use of Cross-Sectional Designs. *Journal of Business and Psychology*, 34(2), 125–137. <https://doi.org/10.1007/s10869-018-09613-8>

- Tewari, A., Raja, T., Nawkar, A., Das Roy, S., & Maulik, P. K. (2021). Evaluating a community based mental health programme in West Bengal, India: Description of the methodology and lessons learned. *Evaluation and Program Planning*, 87(8), 101931.
<https://doi.org/10.1016/j.evalprogplan.2021.101931>
- The InterAcademy Partnership. (2021). Combatting Predatory Academic Journals and Conferences. *Science Health Policy*, 1–126. <https://www.interacademies.org/publication/predatory-practices-report-English>
- University of Malawi. (1996). *Report of senate on Criteria for promotion and award of merit increments*. University central office.
- Ward, S. M. (2016). The Rise of Predatory Publishing: How To Avoid Being Scammed. *Weed Science*, 64(4), 772–778. <https://doi.org/10.1614/ws-d-16-00080.1>
- White, E., & King, L. (2020). *Conceptual framework for scholarly communication guidance by the academic library : The case of Kwame Nkrumah University of Science and Technology*.
<https://doi.org/10.1177/0961000620907966>
- Woolston, C. (2021). University drops impact factor. *Nature*, 595, 462.
- Yallem, A., Juusola, H., Ahmad, I., & Törmälä, S. (2018). *Exploring principal-agent theory in higher education research*. file:///C:/Users/User/Downloads/4.+Exploring+principal-agent+theory+in+higher+education+research+Addisalem+Yallem,+Henna+Juusola,+Ijaz+Ahmad,+Sari+T%C3%B6rm%C3%A4l%C3%A4%20(2).pdf
- Yeo, M. A., Renandya, W. A., & Tangkiengsirisin, S. (2021). Re-envisioning Academic Publication: From “Publish or Perish” to “Publish and Flourish.” *RELC Journal*, 00(0), 1–10.
<https://doi.org/10.1177/0033688220979092>
- Zhao, L. (2014). Riding the Wave of Open Access: Providing Library Research Support for Scholarly Publishing Literacy. *Australian Academic and Research Libraries*, 45(1), 3–18.
<https://doi.org/10.1080/00048623.2014.882873>
- Zhao, S. X., & Qiao, L. (2017). Subject ranking of universities. *Current Science*, 113(7), 1214–1215.

Appendices

Appendix 1: Survey questionnaire

Survey Questionnaire.

Topic: Knowledge of predatory publishing: A case study of Malawi University of Business and Applied Sciences.

SECTION A: DEMOGRAPHICS AND CHARACTERSTICS OF RESPONDENTS

SN	Item Description	Responses	Tick
1a	Gender	Male	
		Female	
1b	Age	18 -30	
		31- 40	
		41- 50	
		51- 60	
		60 and above	
1c	Name of Faculty	Applied Sciences	
		Education and Media Studies	
		Engineering	
		Commerce	
		Built Environment Commerce	
1d	Rank /position	Staff Associate/Assistant Lecturer	
		Lecturer	
		Senior Lecturer	
		Associate Professor	
		Professor	
		Research scientists	

1e	Length of service	1-5	
		6 - 10	
		11 - 20	
		20 and above	

SECTION B: AWARENESS OF PREDATORY JOURNALS

2. Are you aware of the term predatory journals?

Yes	
No	

3. Are you aware of the tools that list predatory journals, e.g. Beall’s list of predatory journals?

Yes	
No	

4. Rate your agreement with the following statements by ticking your option in the blank space

Statement	Agree	Don't agree	Not sure
Predatory journals accept articles quickly with little or no quality control checks.			
I have adequate knowledge about the characteristics of predatory journals.			

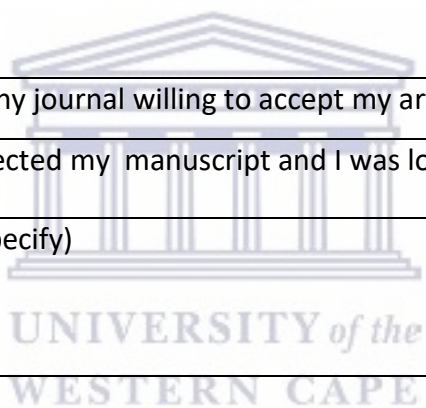
SECTION C: FACTORS THAT INFLUENCE ACADEMICS TO PUBLISH IN PREDATORY JOURNALS.

5. Have you ever published an article in a predatory journal?

Yes	
No	

6. If the answer is yes to question 5 above, why did you publish in a predatory journal?

SN	Statement	You can tick more than one.
a	I received an email requesting that I could submit an article for publication in a journal.	
b	I did not have adequate knowledge about the characteristics of predatory journals.	
c	Pressure to publish in any journal willing to accept my article	
d	High quality journals rejected my manuscript and I was looking for an alternative	
e	Other factors (please specify)	



7. Rate your agreement in line with the following statements

SN	Statement	Strongly agree	Agree	Disagree	Strongly disagree	Not sure
a	I have the knowledge and skills to assess journal quality					
b	The Academic Committee responsible for promotion should be concerned about predatory journals					
	The university should have a clear policy and guidelines on predatory journals					
c	I know who to consult if I have questions or doubts about the quality of a journal.					

d	I feel it is valuable to discuss how to assess journal quality with my colleagues and students					
---	--	--	--	--	--	--

SECTION D: EFFECTS OF PREDATORY PUBLISHING ON THE SCHOLARLY COMMUNICATION PROCESS.

8. Using the Likert scale of 1 to 5, where 1 is strongly agree; 2 is agree; 3 is undecided; 4 is disagree; and 5 is strongly disagree. Please put tick (v) in one box of your choice for each of the following statements.

SN	Statement	1	2	3	4	5
a	Predatory journals cause a lot of harm to the scholarly publishing practices					
b	Predatory journals affect the reputation and career progression of researchers					
c	Predatory journals affect the ranking and reputation of universities globally.					
d	It is a waste of research funds to pay for Article Processing Charges for predatory publications					
e	Research funders are concerned about predatory journals and predatory conferences.					

SECTION E: INTERVENTIONS AND STRATEGIES TO CURB PREDATORY PUBLISHING.

9. Have you ever attended any training on predatory publishing practices?

- Yes
- No

10. If yes, what type of training did you attend? Please select (You can choose more than 1)

a	Library workshop/training on predatory publishing	
b	Faculty/Departmental training on predatory publishing	
c	Professional conferences	
d	Other(Specify)	

11. Currently, what tools or systems do you use to check the credibility of journals as a means of avoiding publishing your work in predatory platform?

a	I consult the Librarian	
b	I consult the Dean of faculty or Head of Department	
c	I consult my colleagues	
d	I use indexing systems such as Web of Science or Scopus	
e	Others, please specify	

12. What can the library department or MUBAS put in place to address the problem of predatory journals?

Section F: Quality Assurance and Research outputs

13. Using the Likert scale of 1 to 5, where 1 is strongly agree; 2 is agree; 3 is undecided; 4 is disagree; and 5 is strongly disagree. Please put tick (✓) in one box of your choice for each of the following statements.

SN	Statement	1	2	3	4	5
a	There is a strong correlation between quality research output and reputation of a university					
b	Universities with good quality research are more likely to attract more funding from government and other donors					
c	Predatory journals erode the reputation of academics and their respective institutions.					
d	Good quality research can maximise prestige and ranking of MUBAS as university in Malawi and beyond					
e	Academic promotions should be based on publications in top-tier journals					
f	Research funders are also concerned about predatory journals					

14 Are there any other comments on predatory publications that you would like to share?

Thank you.

Appendix 2: An interview guide for collecting qualitative data

Topic: Knowledge of predatory publishing: A case study of Malawi University of Business and Applied Sciences

Interview Guide

Part 1: Background information about the respondents

- a) What is your gender?
- b) Which faculty and department do you belong to?
- c) How long have you worked with MUBAS?

Part 2: Knowledge and awareness about predatory publishing

- a) Let's talk about predatory journals, do you have any experience to share on this topic?
How do you describe predatory journals?
- b) What is your comment on Beall's list of predatory journals?
- c) Do you think faculty members have adequate awareness about the characteristics of predatory journals and publishers?

Part 3: Factors that influence academics to publish in predatory journals

- a) What are some of the factors that influence academics to publish in predatory journals?
(*probe on pressure to publish, acceptance and rejection rates in top-tier journals, inadequate knowledge*)
- b) Do you discuss with colleagues and students on how to assess journal quality?

Part 4: Effects of predatory publishing on the scholarly landscape

- a) In your experience what are the effects of predatory publishing on the scholarly landscape. (*Probe on reputation of academics, institutions, funders and ranking*)

Part 5: Interventions and strategies to curb the problem of predatory publishing

- a) What interventions and strategies should MUBAS put in place to curb the problem of predatory publishing?
- b) Do you mentor staff associate and assistant lecturers in the area of predatory publishing in your faculty/department?
- c) In your case, what tools or systems do you use to check the credibility of journals?

Part 6: Quality Assurance and Research Outputs

- a) In your view, what activities should faculty members initiate and perform in order to position MUBAS as one of the prestigious universities in Malawi and beyond?
- b) Do you agree that there is a strong correlation between quality research output and reputation of a university?
- c) Do you agree that predatory journals erode the reputation of academics and their respective institutions?

- d) What is your comment on basing academic promotions on publications in top-tier journals?
- e) What is your comment on government funding for research at MUBAS?

Part 7: Conclusion

Do you have any other comments to make?

Thank you.

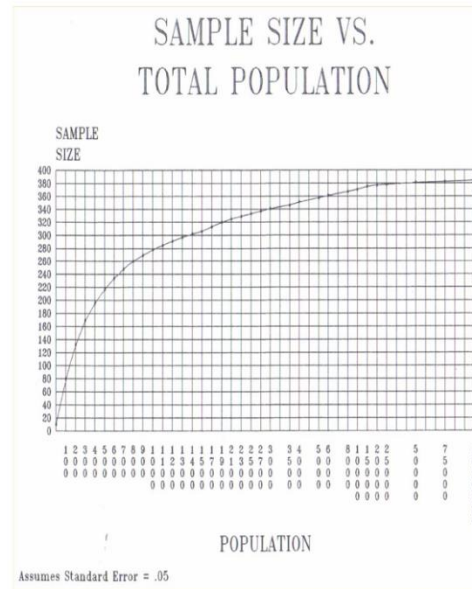


Appendix 3: Krejcie & Morgan Table for determining sample size

TABLE 1
Table for Determining Sample Size from a Given Population

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—N is population size.
S is sample size.



Appendix 4: UWC Ethical Clearance Letter



UNIVERSITY of the
WESTERN CAPE



01 July 2022

Mr S Mvula
Library and Information Science
Faculty of Arts and Humanities

HSSREC Reference Number: HS22/4/12

Project Title: Knowledge of predatory publishing: A case study of Malawi University of Business and Applied Sciences.

Approval Period: 27 June 2022 – 27 June 2025

I hereby certify that the Humanities and Social Science Research Ethics Committee of the University of the Western Cape approved the methodology, and amendments to the ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report by 30 November each year for the duration of the project.

For permission to conduct research using student and/or staff data or to distribute research [surveys/questionnaires](https://sites.google.com/uwc.ac.za/permissionresearch/home) please apply via:
<https://sites.google.com/uwc.ac.za/permissionresearch/home>

The permission letter must then be submitted to HSSREC for record keeping purposes.

The Committee must be informed of any serious adverse events and/or termination of the study.

A handwritten signature in black ink that reads "Josias".

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

Activate Wir
Go to Settings to
Director: Research Development

Appendix 5: MUBAS Ethical Clearance Letter



VICE-CHANCELLOR

Nancy Chitera PhD, Maths Ed., MSc. Maths., BEd (Sci)

Our Ref.: AD/92

Your Ref:

Date: 28th June, 2022.

All correspondence to be addressed to the Vice Chancellor
Malawi University of Business and Applied Sciences
Private Bag 303
Chichiri
Blantyre 3, Malawi

Tel: +265 1 870 411

e-mail: vice-chancellor@mubas.ac.mw

Mr. Stuart Mvula
C/o University of Western Cape
Faculty of Arts and Humanities
Department of Library and Information Science
P/Bag X 17, Bellville, 7535
Cape Town.
South Africa



UNIVERSITY of the
WESTERN CAPE

Dear Mr. Mvula,

REQUEST FOR PERMISSION TO UNDERTAKE RESEARCH AT THE MALAWI UNIVERSITY OF BUSINESS AND APPLIED SCIENCES.

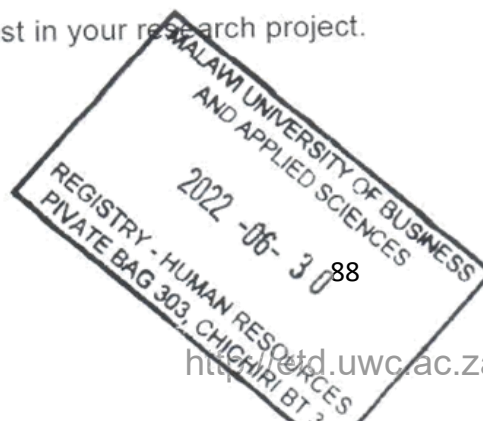
Reference is made to your request dated 20th March 2022 on the above subject.

I would like to inform you that permission has been granted to you to collect data from faculty members for your research project titled *Knowledge of predatory publishing: A case study of the Malawi University of Business and Applied Sciences.*

I would like to advise that all the information gathered should be used for research purposes only and ensure that the confidentiality of the respondents is respected throughout the exercise.

I wish you all the best in your research project.


Gregory Banda
For REGISTRAR.



Appendix 6: Consent form for a survey questionnaire



Consent Form : Questionnaire

University of the Western Cape

Knowledge of predatory publishing: A case study of Malawi University of Business and Applied Sciences

Researcher: Stuart Mvula

Please initial box

1. I confirm that I have read and have understood the information sheet explaining the above research project and I have had the opportunity to ask questions about the project.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. (If I wish to withdraw I may contact the lead researcher at any time)
3. I understand my responses and personal data will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the reports or publications that result for the research.

I agree that the data collected from me may be used in future research.

4. I agree to complete a survey questionnaire. YES NO

Name of Participant
(or legal representative)

Date

Signature

Name of person taking consent
(If different from lead researcher)

Date

Signature

Lead Researcher

Date

Signature

(To be signed and dated in presence of the participant)

Copies: All participants will receive a copy of the signed and dated version of the consent form and information sheet for themselves. A copy of this will be filed and kept in a secure location for research purposes only. [Enter full names and contact details in the blocks below.]

Researcher:

Stuart Mvula
4108106@myuwc.ac.mw
+265882417001
+27656253719

Supervisor:

Dr Elisha R Chiware
chiwaree@cput.ac.za
021 959 6322

HOD:

Supervisor:
Dr. Lizette King
king@uwc.ac.za

Appendix 7: Consent form for individual interviews



Consent Form : Interviews

University of the Western Cape

Knowledge of predatory publishing: A case study of Malawi University of Business and Applied Sciences

Researcher: Stuart Mvula

Please initial box

5. I confirm that I have read and have understood the information sheet explaining the above research project and I have had the opportunity to ask questions about the project.
6. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. (If I wish to withdraw I may contact the lead researcher at any time)
7. I understand my responses and personal data will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the reports or publications that result for the research.
8. I understand that I may decline to be audio-recorded at any point.
9. I agree that the data collected from me may be used in future research.
10. I agree to take part in the above research project for not more than 40 minutes. YES NO

Name of Participant
(or legal representative)

Date

Signature

Name of person taking consent
(If different from lead researcher)

Date

Signature

Lead Researcher
(To be signed and dated in presence of the participant)

Date

Signature

Copies: All participants will receive a copy of the signed and dated version of the consent form and information sheet for themselves. A copy of this will be filed and kept in a secure location for research purposes only. [Enter full names and contact details in the blocks below.]

Researcher:

Stuart Mvula
4108106@myuwc.ac.mw
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Supervisor:

Dr Elisha R Chiware
chiwaree@cput.ac.za
021 959 6322

HOD:

Supervisor:
Dr. Lizette King
lking@uwc.ac.za

Appendix 8: Information letter for a survey questionnaire

Department of Library and Information Science

25th March, 2022

Dear Participant

You are invited to participate in a research study on *Knowledge of predatory publishing: A case study of Malawi University of Business and Applied Sciences* by Stuart Mvula. The purpose of this study is to investigate academics knowledge about predatory publishing practices with a view of proposing interventions that can be applied to address the problem at the Malawi University of Business and Applied Sciences (MUBAS). The study is aimed at promoting best practices in scholarly publishing as well as proposing policy and practice interventions related to predatory publishing at MUBAS. The study is part of the requirements for the completion of a Master's Degree in Library and Information Science at the Department of Library & Information Science, University of the Western Cape in the Republic of South Africa. It will be expected of you to share experiences and thoughts on the questionnaire questions. It will not take longer than 20 minutes to complete the questionnaire.

Please take note that there are no monetary gains associated or paid to you for taking part in this study. Your participation is voluntary and you are free to withdraw from the study anytime without giving reasons. Your responses will be treated anonymous and your confidentiality will be highly respected. There will be no foreseeable risks involved if you participate. In order to demonstrate your willingness to participate in the study, you will be requested to sign a consent form.

If you have any questions or comments about this research study, you are free to contact me through the email address 4108106@myuwc.ac.za or on mobile number +27656253719. You may also contact my supervisor, Dr. Elisha .R.T. Chiware at the Department of Library and Information Science, UWC, Private bag x17, Bellville, 7530, or phone +27662276170 or email chiwaree@cput.ac.za . In addition, you may contact the UWC Research Office at HSSREC, Research Development at telephone 021 9594111 or email research-ethics@uwc.ac.za.

Yours sincerely



Stuart Mvula

Appendix 9: Information letter for individual interviews

Department of Library and Information Science

25th March, 2022

Dear Participant

You are invited to participate in a research study on *Knowledge of predatory publishing: A case study of Malawi University of Business and Applied Sciences* by Stuart Mvula. The purpose of this study is to investigate academics knowledge on predatory publishing practices with a view of proposing policy and practice interventions that can be applied to address the problem at the Malawi University of Business and Applied Sciences (MUBAS). The study is part of the requirements for the completion of a Master's Degree in Library and Information Science at the Department of Library & Information Science, University of the Western Cape in the Republic of South Africa. It will be expected of you to share experiences and thoughts during the interview. It will not take longer than 40 minutes to participate in the interview.

Please take note that there are no monetary gains associated or paid to you for taking part in this study. Your participation is voluntary and you are free to withdraw from the study anytime without giving reasons. Your responses will be treated anonymous and your confidentiality will be highly respected. There will be no foreseeable risks involved if you participate. In order to demonstrate your willingness to participate in the study, you will be requested to sign a consent form.

If you have any questions or comments about this research study, you are free to contact me through the email address 4108106@myuwc.ac.za or on mobile number +27656253719. You may also contact my supervisor, Dr. Elisha .R.T. Chiware at the Department of Library and Information Science, UWC, Private bag x17, Bellville, 7530, or phone +27662276170 or email chiwaree@cput.ac.za . In addition, you may contact the UWC Research Office at HSSREC, Research Development at telephone 021 9594111 or email research-ethics@uwc.ac.za.

Yours sincerely



Stuart Mvula